

# AMERICAN NURSERYMAN

and The NATIONAL NURSERYMAN

MAY 1, 1940



*Quercus Coccinea*

Reaching the Retail Customer  
Effect of Girdling Roots on Trees  
Identifying Woody Plants in Winter  
Virus Diseases of Stone-fruit Trees

# AMERICAN NURSERYMAN

and The NATIONAL NURSERYMAN

F. R. KILNER, Editor

## Editorial

### BUSY MONTH.

May will be the busiest period nurserymen have seen for many a moon. Orders are heavy, some reporting the best spring bookings in ten years, but the late spring delayed shipping by wholesalers and, still more, planting by landscape firms. Temperatures low enough to bring snow or sleet were experienced in many northern localities as late as the middle of April. Light snow was reported at McMinnville, Tenn., April 20.

The arrival of sunny and warmer weather the last few days of April increased activity to the peak. The rush is on in earnest, to try to complete shipping and planting before the season is too far advanced. If current moderate temperatures continue late in the month, May this year will be a month of record activity.

The severe weather and low temperatures in various localities in mid-April did little bud damage on fruit trees, it has been found, because of the lateness of the season, which retarded bud growth.

### MORE ON PAY GARDENS.

Among the comments upon Ernest Hemming's proposal of pay gardens in different sections, in the April 15 issue, one of considerable merit is that state associations might well undertake projects of this kind. It is a long-range enterprise, requiring a period of years for its promotion without the lavish expenditure of money. The enthusiasm of an individual nurseryman in such an enterprise might not be shared by those who come after him in his business, but a suitable committee of a trade association could be depended upon to continue in the guidance of such a project.

Not only would the state association be doing a public as well as a trade service by aiding in the horticultural education of citizens in the area, but there would also redound to the organization an increased esteem and prestige that might be

## The Mirror of the Trade

counted upon to draw many additional members. There would be some trade renown, in all probability, in sharing a successful civic enterprise. Of course, if the garden more than paid its way, there would be an additional incentive to join the association.

What is first needed is a group of enthusiastic nurserymen in each state or section, with a vision of the possibilities keen enough to stir them to start the undertaking.

### F. H. A. LANDSCAPE LOANS.

Some nurserymen and landscape firms have developed additional business by calling prospects' attention to the home modernization loans insured by the Federal Housing Administration. Much more business would be available, however, if trade and public alike were familiar with the opportunity and procedure. While some banks and building associations make such loans, certain finance companies are making a specialty of the business, and a nurseryman who wants to develop landscape jobs by that means might confer with the local office of the Commercial Credit Corporation, located in over 150 cities in the country, or the First Bancredit Corporation, which has headquarters in seventeen large cities and offers nation-wide service.

Such finance companies will furnish folders and forms, with suitable explanation. They have for distribution folders issued by the Federal Housing Administration, explaining the purpose of loans and procedure in obtaining them. In F. H. A. form No. 815 and No. 145, small folders useful as envelope stuffers, home landscaping is the subject of a paragraph relating to modernization loans.

The present building of many new homes at moderate price has left virtually no market for old out-of-date residences. Whether for his own use or for sale, it is profitable to the homeowner to modernize, and while he is bringing the plumbing and other interior features up to date by means of an F. H. A. loan, he can make the exterior attractive by undertaking landscaping on the same basis. And the homeowner who merely

seeks a replanting job, but cannot pay for it immediately, can obtain the money through an F. H. A. insured loan, to be repaid in monthly installments.

If you have such a client, confer with him as to the amount necessary to make the required planting and then let him make application to the local source of such loans. The companies mentioned above, if not the local bank, will assist and accelerate the handling of the application.

The other types of F. H. A. loans, on the construction of small homes, have been granted in record-breaking numbers in the past month, particularly those under Title I for \$2,500 homes, while loans granted under Title II, on higher-priced residences, are likewise exceeding previous figures. In those cases the prospective builder must be contacted early if some part of the loan is to be allotted for a landscape job; otherwise, the money is likely to be all spent on the building itself before planting is thought of.

While the Federal Housing Administration staff at Washington encourages consideration of landscaping by the applicants of loans for individual home construction, there are no requirements in that instance. Only on multiple-unit rental projects is landscaping a requirement, the amount varying from one to three per cent of the total construction cost. If this principal is extended to the loans on individual homes, the increase in small landscape jobs will be remarkable.

Since the filing of an application and the granting of a loan takes some time, the nurseryman who is only now interesting himself in F. H. A. insured home modernization loans will not expect results in his spring business, but while the crews are now completing the jobs that are on the books, the salesman can be out with a view to fall contracts from homeowners stimulated by spring fever to improve their properties or to build.

ACCESSIONS in woody plants to the Morton Arboretum, Lisle, Ill., this spring are named, some with brief comments, in the April issue of the bulletin of popular information.

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**Don't cut prices!**

**Find More Buyers at  
regular prices.**

**Advertise in the  
American Nurseryman.**

### PLEASED WITH RESULTS

"We were very much pleased with the results obtained from our advertisement. Our surplus in grafts has been entirely sold." — Louisville Nurseries, Louisville, Ky., April 22, 1940.



# Reaching the Retail Customer

*How to Approach Prospective Buyers and to Develop Local Business in Nursery Stock Sales and Landscape Planting—By Edwin Matthews*

The art of selling is as old as creation. Satan Senior sold Eve on an idea and she in turn sold Adam, and now look at the race, all trying to beat each other at selling.

Of course, with every age there come changes in tactics and revisions in approach, but the basic principles are practically the same today as when Jacob sold Esau short on birthrights, or when William Penn sold beads and knickknacks to the Indians for what is now Philadelphia.

The first point to be taken into consideration is our own attitude toward the business we represent. Do we think of it as a luxury and approach our customers with that viewpoint? If we do, we are weakening that approach a few notches. Bread we know is kingpin necessity, but man cannot live by bread alone. If we look around and see what is being done in the so-called luxury-class merchandise we don't have to ask if the public is buying it. We know it is. Well, if amusements, beauty parlors, body adornments, candies, drinks, dog races and the many other frills and thrills that produce artificial respiration are reaping a harvest of results, why shouldn't the purveyors of natural and lasting beauty do the same? We are doing it, but we are not getting so much as we should.

## Knowledge of Goods Necessary.

Many a so-called salesman before the depression has found out in these later years that he really wasn't so good a salesman as he thought he was. The superficial sales talk no longer goes. Horticultural societies, women's garden clubs and other civic bodies have been a direct means of educating the public in the art of plant buying. The salesman today who does not possess a fund of knowledge along with his other qualifications will lose out to his competitor who is able to talk intelligently to the prospective client on plants and their adaptations, soil and its contents, color harmony and successions, exposure, position, etc.

There was a time when the public could be fooled by someone selling

everblooming peonies and hardy northern gardenias; a little of it may still be done, perhaps, but most of our best plant buyers now know what they want, and the nurseryman of today must realize that many of these buyers, too, know as much as and more perhaps than the nurseryman himself about the "mysteries" of plant life.

## Knowledge Plus Charm.

Now, a salesman may have knowledge of plants to his finger tips, but if it is accompanied by a "sour-puss" it won't get him far. There must be that subtle quality, charm, to reinforce our knowledge, and when we say charm we don't mean the perpetual grin, but rather the art and grace to listen sometimes instead of talk. In this way one gets to know his customer by the shortest route and, after all, the salesman must be able to read his customer aright to consummate the sale.

## Sentiment an Asset.

Sentiment enters largely into our sales; as a matter of fact, without it our business would be shorn of half its sustaining charm. We are thankful that, despite the allure of other, artificial commodities, most people do have a deep-seated love for the natural and living things like flowers, plants and trees.

In this we have the edge on many other lines of business and for this reason should not allow it to lag. Birthday gifts, wedding presents, Christmas gifts, all may enter into the sale of our plants. I clearly recall selling a \$300 order of rhododendrons as a wedding anniversary gift, which the lady desired instead of a loving cup that the husband intended to give her. On our file today is a \$200 planting order as an Easter gift; another order is to decorate a mausoleum, the last resting place of a loved one. I mention these things to prove that we are in a sentimental business even if in our dark moments we don't think so.

Within the past month or so many great flower shows have been held throughout the country. A great deal of money has been spent on produc-

ing them, and we have a right to ask the question, do they pay? Well, if you mean do they pay immediate returns like the box receipts of the picture, "Gone with the Wind," I'd say no, but as a stimulus to our and kindred businesses I'll say an emphatic yes.

Our advertising is composed of three things—what we say, what we print and what we do. The people, our potential customers, may hear what we say, may read what we print and may still discount fifty per cent of all this, but what they actually see they usually believe. That which enters through the eye is usually appreciated to the fullest extent, and so all flower shows of the highest order are business boosters and builders. Two years ago we constructed and exhibited in competition a 65-foot wall garden at one of the large shows in the east. The reaction on the general public was amazingly gratifying, not only in general interest, but in actual sales results. The wall was sold, adapted and constructed on a new customer's property.

## Do Flower Shows Pay?

Some years ago we filled a prominent florist's window with ornamental berry-bearing shrubs. The street was one of the main avenues of traffic in Philadelphia. Those delightful hardy ornamental berried plants, so arranged as to show off their various colors, and all named, brought wonderful results in orders for them from near and far, and though eight years have elapsed since that show window caused thousands of pedestrians to stop and admire, orders are still coming in as a direct result of the effort.

The written word, while not so effective as the spoken word, and not nearly so convincing as an actual demonstration, is nevertheless a route of approach that is used perhaps more than any other. A letter which the postman brings to your door may and does find a response, especially if the letter has a personal and human ring to it. Some of us find it the most desirable medium of

approach, and certainly it costs the least of all available methods. Following is a copy of a letter used by us this spring:

Dear Customer:

In these days of stress and strife one's own garden is a place where we may find pleasant diversion among growing things—Plants that promise us a wealth of bloom—Trees that will provide us with grateful shade during the warm days of summer—Shrubs that will brighten the scene with flowers in spring and colorful fruits in autumn and winter, and Evergreens that provide restful greenery throughout the cycle of the year.

With our forty acres of hardy ornamentals we can fully supply your wants in splendid plant material. Large-size Trees, Shrubs, Evergreens and Perennials for immediate effect are here and at prices really below the cost of production, and our Service Department is always available at most moderate charges to carry out your demands.

Call us by phone, write us to come and see you, or come to us with your problems in whichever life of our service it may be. Remember it is "Service with Knowledge."

Very truly yours,

OUTDOOR ARTS COMPANY, INC.

#### Obstacles to Business.

The good nurseryman of today has to overcome many obstacles which some thirty years ago he was not called upon to meet. There is competition not only from too many nurseries, but also from state and federal nurseries. We don't mind good honest competition; we welcome it, but he who pays a heavy tax for the privilege of being in business scarcely relishes the thought that a portion of that tax is used against him.

There is the amateur who, having planted several acres as a hobby, now presents stock for sale to the public at new low prices. Then there's the roadside stand, which for the past few years has intruded on the buying public.

We may shrug our shoulders, perhaps, and say it won't last long, so why worry, but nevertheless it does eat into our seasonal sales noticeably while it occurs.

There is only one thing to counteract these irritants, and that is intelligent, faithful service, a service that your customer can always depend on and thus ensure for you his continued patronage.

#### CHANGE GROUP NAME.

The Greater Detroit Landscape Society has changed its name to Landscape Nurserymen of Michigan, be-

cause of similarity of the old title to that of another local organization. This group is made up of nurserymen, dealers and landscape contractors who operate in the Detroit area.

#### NEW JERSEY ADS.

For seven weeks beginning with the week of March 18, advertising is appearing in nineteen newspapers of the state in the coöperative campaign of the New Jersey Council and the New Jersey Association of Nurserymen, half of the expense being met by the state and half by the trade organization.

On this page is reproduced an advertisement, the same size as it appears in New Jersey newspapers, typical of the appearance and copy in five of the seven insertions. Emphasis is placed upon dealing with the neighborhood nurserymen, not a peddler, and upon a planned planting program.

The sixth piece of copy is a large advertisement giving ten reasons why gardeners should buy from the local nurseryman. The seventh piece of

copy had not been prepared when the proofs were forwarded by Col. Charles C. Kahlert, of Brooke, Smith, French & Dorrance, who is in charge of this advertising.

The series of advertisements appears on various days in the latter half of the week, in the following newspapers: Newark News, Morristown Record, Montclair Times, Passaic Herald News, Hackensack Bergen Record, Trenton State Gazette Times, New Brunswick Home News, Collingswood American, Merchantville Community News, Haddonfield Gazette, Audubon Visitor, Moorestown News, Riverton New Era, Plainfield Courier News, Elizabeth Journal, Asbury Park Press, Red Bank Register, Vineland Times and Bridgeton News.

This year the New Jersey nurserymen decided to concentrate their advertising for the second year of their 5-year program in newspapers of their own state and in this way not enter the territory of their neighboring nurserymen, located in Pennsylvania and New York.

"let's  
remodel  
outside too"

"suits me • but let's  
do it right this time—  
call in the nurseryman  
and have him give us a  
foundation plan that we  
can start on at once, and

add to piece by piece • no more of  
this haphazard planting and no more  
"bargain" stock from the peddlers •  
we'll select our pieces **at the nursery**—  
have them freshly dug and lose no more  
time nor money in dressing this place  
up • we should know by this time that  
the only bargains in nursery stock are  
trees and plants that will live, and  
the only place to get that kind of  
stock is from the nursery.\*



\*Buy from your community nurseryman displaying this emblem. He guarantees your complete satisfaction with his nursery-grown stock and planting service.



NEW JERSEY COUNCIL, TRENTON, N. J.

In cooperation with

NEW JERSEY ASSOCIATION OF NURSERYMEN

NEW JERSEY DEPARTMENT OF AGRICULTURE



One of Series of Co-operative Advertisements Being Run This Spring.

# Effect of Girdling Roots on Trees

*Root Strangulation Evident in Retarded Growth, Light Foliage Color and Dead Limbs Due to Interference of Sap Flow—By H. M. Van Wormer*

There is a vast difference between a living, existing tree and a thriving, healthy one. A comparison might be made as between a person barely existing on food alone and a person who is prosperous, with an abundance for his well-being. In other words, one is in low gear and the other is in high gear. Healthy and thriving trees make yearly improvement in their appearance and size. Unhealthy trees show retarded growth, or occasionally a large dead limb, or even the appearance of yellowing in the top. This continuous breaking down appears in greater proportions from year to year until the tree becomes sickly or dies. In many instances this appearance is not noticed until the tree has reached the last stage of a weakened condition. It is at that time the tree owner becomes frantic and seeks to repair the damage affecting the tree.

It is safe to say that forty per cent of ailing trees are directly or indirectly affected by retarded sap flow. Some areas are not being fed in a normal procedure. This is caused by the growth of the root system of the tree itself. Root strangulation is sometimes termed the gangster of the underworld of trees. It robs, chokes and even steals away the lives of many of our prominent tree citizens. Under various conditions it prevents the development of the base root of the tree, which is most needed in a healthy development. Roots may wrap themselves about the main taproot two or three feet below the surface of the ground. And cases have been noticed of a continuous inarching root growth whereby a normal sap flow from the roots to the tree was almost impossible.

Dying of large limbs near the bottom of the tree is generally an indication of retarded sap. The dying of the leader in the top of a tree also indicates strangulation. Lack of color and smallness of leaf area sometimes may be caused by retarded growth in an area such as a V-shaped crotch. This could be explained by the gradual growth of the other two limbs crowding out the limb in the center. Sometimes in small nursery trees retarded sap flow results when all of the root system is one-sided; this root sys-

tem seems never to change to any great extent in its development on that side which has no sap channels of direct flow.

Greater attention is being given to the healing of cavities when they happen in the direct line of retarded flow.

Many of our bark borers attack in dormant areas, and in most cases this is the breaking-down point in the general deterioration of the tree.

The question arises, what causes this peculiarity of root development? The answer would be, several reasons. It is safe to assume that one of the main reasons is the deflection of the root in search of more moisture, easier growing conditions or else more abundant plant material. Having secured any one of these three items, that portion of the root grows and expands so rapidly that it presses more severely across the trunk or another root, causing a strangulation to occur. Another cause of deflection could be the circular growth of a tree when it was young because it was planted in too small a hole to permit the tree to send its roots outward. Other instances of root strangulation have been found where the tree owner fed heavily immediately around the base of the tree. This available plant material enticed root growth in and around the trunk.

An outstanding example occurred the past season in Richmond, Va., when a tulip poplar died. This tree had been under our supervision and care for the past five years. In the spring of 1938 this tree showed small development in its leaf growth. Digging carefully around the trunk of the tree at a distance one foot below the surface, we found several large girdling roots embedded in the trunk. These were properly cut, and the soil was placed back in its original position. At the same time the tree was given a thorough feeding. In the spring of 1939 this tree continued to show further trouble, by producing little leaf and twig growth. We dug away the soil about three feet and noticed the tapering of the taproot very rapidly. It was then that we discovered the girdling root entirely surrounding the taproot, embedding

itself near the level of the bark. By close examination we found dead bark in the immediate vicinity of the girdling roots which had encircled the entire taproot, and it was only a short time before the tree was removed. When we removed the tree, we found that some eight or ten years ago this location had been filled in with soil about two feet. This case clearly indicates one of the results of soil dumping.

A comparative survey of cases of affected trees shows as follows: City streets show more trouble than country; compact land areas, more than loose soil conditions; feeding in immediate vicinity of tree, more than under limb dripping; softwoods, more than hardwoods; fruit trees, more than nut trees.

It is evident, therefore, that great importance should be placed on this phase of tree destruction whenever a complete diagnosis is to be made of the growing conditions of a tree. It has been my experience that the best time of the year to foretell the future of a tree is before frost, when the trees are about to turn to their various fall colors. It is then that sides of trees, certain limbs or even tops will show a lighter green color than the healthy portion. At that time of the year, the tree begins to prepare for the annual falling of leaves. It goes without saying that an early shedding of the leaves, unless caused by dry weather conditions, is indicative of some form of sap strangulation.

The past two seasons have brought greater numbers of dying trees on city streets and private estates. Our elms show a large number of cases of dying back as a result of defective sap-growth channels. This defect may be in the form of V-shaped crotches, a heavy network of inarched base root structure or an out-and-out case of root girdling at the base. With any of these defects, the yearly toll is rapidly mounting. The slow dying back of limbs, or one large limb in particular, seems to be the general procedure, which takes about five years to bring the death of the tree.

The general procedure to rectify this strangulation in cases which have



not developed too far is to sever the strangulating root at least two inches apart, painting both ends to prevent entrance of fungus borers. Often it may be necessary to dig down one foot, or even two feet, below the surface and remove, as carefully as possible, the root in question. In cases of a complete inarching of base roots, which often occurs on beeches, elms and lindens, it is almost impossible to remedy this condition, except possibly by a heavy, deep fertilization of the feeders with a good commercial tree food.

For younger trees on private estates it is good policy to cultivate a collar about one foot wide about the trunk of the tree. This soil should be loosened about twice yearly and encircling roots should be either straightened out or cut.

The problems of the nurseryman and those of the arborist are often closely connected. It is in the nursery that the tree is reared from infancy to the time it goes out into the world to be placed on its own. During its early growing period the general principles of its future development are more or less imprinted, as to whether it will have a complete or one-sided root system; whether it will have a single or double leader and whether it will be an upright or low-growing type of tree. When this tree has been planted and practically left to shift for itself, has its godfather left it in a condition whereby its future will be assured of perfect growing conditions? Is its root system completely

perfect, which is so necessary in the years to come?

The problem of the arborist seems to occur in the middle-age period of the tree or even in its declining years. All the good or bad principles embodied in the tree when it was young will have a bearing on the maturity of the tree. It may have been planted too close, too deep, too shallow in a location where water seldom penetrates, in a too-exposed or even perhaps in a too-shaded location. The business of preserving and saving trees often comes after the damage has occurred. It is like the old story of "locking the door after the horse is stolen." It is therefore quite important that this particular phase of root strangulation be included in the principles involved in determining what is helping or hindering the growing vigor of a tree.

#### GEORGIA OFFICERS.

One of the younger trade organizations, the Georgia State Nurserymen's Association, is headed this year by men comparatively young in the business, though both represent well established enterprises.

The president, John Wilkinson, Jr., was born January 5, 1910, at Hogansville, Ga., where his father, the late John Wilkinson, founded the Hogansville Nurseries some thirty years ago. Until his death, the father was an active member of both the American Association of Nurserymen and the Southern Nurserymen's Association.

John Wilkinson, Jr., grew up in his father's business. He was educated at Darlington School, Rome, Ga., and Alabama Polytechnic Institute, Auburn, where he was a member of the Phi Delta Theta fraternity. He is also the immediate past president of the Hogansville Kiwanis Club.

At the death of John Wilkinson, Sr., his son-in-law, J. S. Jones, Jr., a graduate of Alabama Polytechnic Institute and then an accountant for the United States Rubber Co., became a partner in the Hogansville Nurseries. Since January, 1934, the business has been operated by these two young men, carrying out the business principles of the founder, who built the Hogansville Nurseries to their present size of 250 acres of ornamental nursery stock.

The vice-president, H. M. Dudley, engaged in farming and lumbering

until about forty years of age, likewise raising a family of seven boys and three girls. In 1921 he came into the possession of two 14-year-old pecan trees set out by Congressman William H. Howard, Lexington, Ga., and in the autumn sold \$50 worth of nuts from them. Becoming interested in pecan trees, he grew them to set out groves and also grew a good many for sale. In response to calls, fruit trees were added, and later shrubbery. Now he has about thirty-five acres of nursery stock at the Dudley Nurseries, Inc., Athens, Ga. He employs a few traveling men and keeps a landscape crew busy. The boys of the family are all interested in the work and play a part in the nursery enterprise.

#### LOUISIANA BIDS.

Bids will be opened at 10 a.m., May 8, by the Louisiana highway commission, Baton Rouge, on two state projects, one covering two miles of the Calhoun-Cheniere highway, consisting of the furnishing and planting of approximately 2,647 trees, shrubs and vines, and grading and drainage structures and other work in connection therewith. The other project is nearly three miles of roadside improvement on the Calhoun-Tremont highway, consisting of furnishing and planting approximately 1,378 trees, shrubs and vines, transplanting 176 small trees and shrubs, as well as grading, surfacing, drainage structures and other work.

THE T. M. Nursery was recently opened at 100 Diamond street, Pittsburgh, Pa., to sell nursery stock as well as garden equipment and supplies.



J. Wilkinson, Jr.



H. M. Dudley.



# Identifying Woody Plants in Winter

*Seventh in a Series of Articles on the Structural Marks and Characteristics of Trees and Shrubs Discusses Key to Magnolias—By Leon Croizat, of the Arnold Arboretum*

Although six genera of the magnolia family are reported in cultivation by the best and most recently published sources of horticultural information, there is only one of them which is actually important. This genus is magnolia with nineteen different kinds, or species, cultivated in managed woodlands or in gardens. Of the remaining five genera, liriodendron, the tulip tree, is represented only by large plants, one of which is of Chinese and the other of northern American origin. The remaining

wandered about, following changes of climate that took place in ages past, seems to have inbred in them the same kind of hardness that is peculiar to elms, corkwoods (leptocarpus), witch hazels, sassafras and papaws. Magnolia cordata, Magnolia virginiana and Magnolia Frasieri, for instance, are hardy as far north as the Arnold Arboretum, and I know at least one specimen of kadsura (not to be confused with katsura, or cercidiphyllum, which is a very different plant) and one of Magnolia grandiflora which survive in New York. Thus, in determining material in leafless conditions, it is well to keep it present that unexpected findings are always possible, if not probable.

Were I asked what character is best to identify magnolias and plants of the magnolia family in winter I should answer without hesitation that the best character is their odor. This odor is so characteristic that it is almost impossible to describe it otherwise than as "magnoliaceous"; to my nose it is less disagreeable than the rank scent of the plants of the rue family, the cork tree, for instance. All parts of the plant reek with it, and it can be sensed by jabbing the bark with a penknife or by peeling off a bit of branchlet. Once the sample to be identified is known to belong to the magnolia group, the bud must be looked up.

There are two kinds of bud in the cultivated magnolias and their kin. One of them is distinctly scaly, like an ordinary cherry bud, for instance. Schisandra has this kind of bud (Figure 1), and being a climber with a bark that resembles the bark of the bittersweet and of actinidia, it is often confused with these two other popular shrubs. The odor, however, is there to set the matter at rest; schisandra smells of magnolia, and that is final. The other kind of bud is the typical bud of magnolia itself, formed by the stipules; that is to say, by the foot-flaps of the petiole of the leaf, which become folded and tightly closed around the bud's core. Inasmuch as the stipules are broadly clasping around the branchlet, they leave

at their fall a ringlike scar (Figure 2) which is quite characteristic of magnolias and should be looked for when checking samples that are suspected of coming from one of these plants. Tetracentron has a bud that is scaly, but the scales are so long that they overlap a great deal, so that the bud at first seems to be more or less that

Fig. 1—Buds of Schisandra chinensis (longest bud not over one-eighth inch long).



genera, namely illicium, tetracentron, kadsura and schisandra, the first and second especially, are not widely used in planting.

As a family the magnolias and their kind can be spoken of as plants of the warm and temperate countries; some of them are decidedly tropical. This notwithstanding, the magnolias are surprisingly hardy. They are very, very old trees and shrubs on the face of the earth, and their having

Fig. 2—Buds of the umbrella tree, Magnolia tripetala (actual size one and three-quarters inches long). Notice in (a) the scar left by the fall of the petiole, which is characteristic for most magnolia buds. The ringlike scars left by the fall of the bud-scales are shown in (b); in (c) a leaf-bud (about three-eighths inch long).



Fig. 3—Buds of the cucumber tree, Magnolia acuminata (actual size three-quarters inch long). Lettering as in figure 2; the scar of the bud-scale is scarcely visible.



of a true magnolia. Illicium has definitely a bud which is like that of schisandra in general structure and arrangement of the scales. There is a transition, as one may see, between the type of bud of magnolia and that of schisandra, with tetracentron more or less in the position of a connecting link.

In preference to drawing up a dry and boresome description, I invite the reader to glance at Figures 2, 3 and 4. These sketches illustrate the three fundamental patterns of the buds of magnolias. Notice, however, that when I speak of buds I do not refer to leaf-buds. I refer to flower-buds, because these are the ones that count for winter identification. The leaf-bud is much alike in different species and may be disregarded altogether; it is easily rec-

Fig. 4—Buds and branchlets of the sweet bay, Magnolia virginiana (actual size of buds about one-half inch). Lettering as in figures 2 and 3. The bark of these branchlets is green.



ognized by its being smaller or much smaller than the flower-bud (see Figures 2 and 3, where the leaf-buds are shown in detail).

The flower-bud, which usually is the one standing at the tip of a freely grown branchlet, is either long and lean or short and fat. A long-and-lean bud is shown in Figure 2; a short-and-fat one, in Figure 3. It must be freely granted that these definitions are to be taken with a grain of salt and that they are far from absolute. The reason why these definitions cannot be airtight is well illustrated by Figures 2 and 4; it is quite clear that the two kinds of buds shown therein are long-and-lean as to shape, but one of these buds (Figure 2, that of the umbrella tree) is about two or three times as long as that of the other (Figure 4, that of the sweet bay).

On the strength of these two definitions, long-and-lean and short-and-fat, it is possible to work out a tolerably good and not too technical key, as follows:

#### **Buds long-and-lean, Hairless:**

With one exception, the magnolias that belong here are American.

A. *Magnolia tripetala*, umbrella tree—Bud quite pointed and absolutely hairless, one inch long or more (Figure 2).

B. *Magnolia Fraseri*, Fraser's magnolia—Bud practically identical with that of the umbrella tree. The determination of this species is seldom important to the horticulturist, because Fraser's magnolia has indifferent value as an ornamental. If a precise determination is required, slit the bud open and carefully unfold one of the leaflets; the leaf of the umbrella tree tapers at both ends, while that of Fraser's magnolia has a distinct pair of "ears" or flaps at the base of the blade.

C. *Magnolia pyramidata*—The bud is that of Fraser's magnolia, but, so far as I have seen it, it is more delicate and slender. *Magnolia pyramidata* is another plant which has little value for the horticulturist and is scarcely better than a lowland variety of Fraser's magnolia.

D. *Magnolia virginiana*, sweet bay—Widespread in cultivation and excellent for certain types of planting (managed woodlands near water-courses for instance). It is deciduous in the north, but practically evergreen in the south. The bud is

short, slender and very pointed, less than one inch long. The smallness of the bud is generally sufficient to distinguish this shrub or petty plant from the umbrella tree; in case of doubt notice the color of the bark. The bark is always brownish on the twigs of the umbrella tree; it is green at least on the last two years' growth on the sweet bay.

E. *Magnolia obovata* (*Magnolia hypoleuca*)—Occasional in cultivation. A number of beautiful specimens are scattered in the public parks and in the old estates of Flushing, L. I., near New York, which were distributed by the historic Prince Nurseries, which were active in this suburb for almost two centuries. When not in leaf and in fruit this species can hardly be distinguished from the umbrella tree. The bud, however, has a tendency to be less sharply pointed than that of the umbrella tree.

#### **Buds long-and-lean, Hairy:**

Here belong only American magnolias.

A'. *Magnolia grandiflora*, bull bay—Evergreen throughout and the best known of our magnolias in cultivation outside of the United States. The bud is shaped like that of the umbrella tree, but it is finely hairy. The hair is often rusty or brownish.

B'. *Magnolia macrophylla*, large-leaved cucumber tree—Deciduous and suggesting the umbrella tree, of which it has the indifferent horticultural value. Hardy north as far as New York, but there never at its best. The leaf is the largest of our native magnolias. The bud is quite big and coarse, with whitish hair that is inclined to be stubby.

#### **Buds short-and-fat:**

All the buds of this kind, which contain the great majority of the Asiatic cultivated magnolias, are hairy. Almost hairless buds are occasionally found on *Magnolia liliflora*, and then mostly at the end of the winter.

The two American species that belong to this group are:

A''. *Magnolia acuminata*, cucumber tree—The flower-bud is rather small, only a little larger than the leaf-bud, grayish and finely velvety throughout, not too fat (Figure 3). This magnolia grows to be a large tree and is commonly planted in parks throughout the northeastern

states. Its flowers are not ornamental and its growth is rather coarse.

B''. *Magnolia cordata*—As viewed by a horticulturist, this plant is but a smaller and less desirable form of the cucumber tree. It grows irregularly and has no merits either of flower or of leaf. Its buds are so similar to those of the cucumber tree that it is almost impossible to recognize them as distinct. *Magnolia cordata* is troublesome for identification because it suggests the cucumber tree and differs from it just enough not to be confused with it by an untrained eye.

In the coming article we will review the rest of the magnolias which have a short and truly fat bud. These are the magnolias most extensively used as ornamentals, and all are of Asiatic origin. They must be carefully reviewed on account of their horticultural importance. In reviewing them, I shall have occasion to illustrate and to discuss the fruit of magnolias in general. The fruit is an excellent character of determination, and it is generally available either on the tree or on the ground around it.

#### **APPEAL OF CATALOGUE.**

The little catalogue issued by the Arapahoe Acres Nursery, Littleton, Colo., shows its difference upon opening, and that difference must appeal to the discriminating plant buyers of that locality.

Under the main division of trees, evergreens and shrubs, the plants are listed alphabetically by their correct botanical names, but the approved common names are opposite in bold type so that plants can be easily located by either name. The mature height is shown opposite each item in the left-hand margin. The descriptions are brief but accurate, no sales ballyhoo being given but each plant described as to its outstanding good or bad qualities for local conditions.

In the back of the catalogue are lists of these plants classified as to their various uses, for shady location or hot dry place, good fall or winter color, time of blooming and other special features. Planting suggestions for Colorado conditions are included.

"The idea has been not so much to create sales appeal as to assist customers who have need for trees and shrubs to find the ones which will most nearly fill their requirements," states

George W. Kelly, president and manager. "As a salesman or for mail-order customers this style of catalogue might not be suitable, but for those who have an interest in plants, especially landscape architects and gardeners, it fills a long-felt need. Especially is this true in Colorado, which has so different a climate and where so little has been written to apply to the peculiar climatic conditions."

The evident honesty and lack of exaggeration in the descriptions appeals to everyone. This policy may not pay in immediate sales made, but in the long run it does help immensely to build up public confidence in the firm.

#### UTAH DISPLAY GARDENS.

With the idea in mind of being able to show customers and visitors appropriate planting material in its mature state, the Porter-Walton Co. two years ago established the Centerville display gardens.

Many types of trees, shrubs, evergreens, perennial and bulbous plants suitable for the area are neatly arranged to produce their proper effect. Many items are now reaching a satisfactory size, as can be seen in the illustration. Each item is plainly marked with a metal marker for the convenience of visitors.

In addition, new varieties are brought in each year and placed in test plots to find just what new mate-

rials offered are really adapted to the climate and soil conditions of the mountain states.

Adjacent to the display gardens, thousands of comparative tests are made annually of all varieties of seeds carried for sale. These plots, particularly the varicolored annuals, attract considerable attention during the summer and fall seasons.

The modern sales office, around which the display gardens have been arranged, is located at the Porter-Walton Nurseries, eleven miles north of Salt Lake City, Utah. Space for automobile parking has been provided. Seeds, garden supplies and nursery materials are quickly available for customers.

A competent staff is maintained to give garden information and assistance in landscape problems. Visitors are always welcome.

#### CORLISS BANQUET.

As has been its custom for the past six years, preceding the rush of spring business, Corliss Bros., Inc., Gloucester and Ipswich, Mass., was host at a banquet and evening of fun, at which some sixty employees, bank officials, reporters and company officers were present.

After the tables were cleared, Cliff Corliss, general manager, introduced the guests and spoke briefly on the firm's expansion and plans for the future.

The speaker for the evening was

Ralph Gaskill, of the Essex County Coöperative Association and secretary of the Essex county fair, who talked on those two organizations.

The remainder of the evening was turned over to Kirk Corliss, master of ceremonies, who arranged the entertainment of bowling, pool, ping-pong and other games, topped off by a Virginia reel.

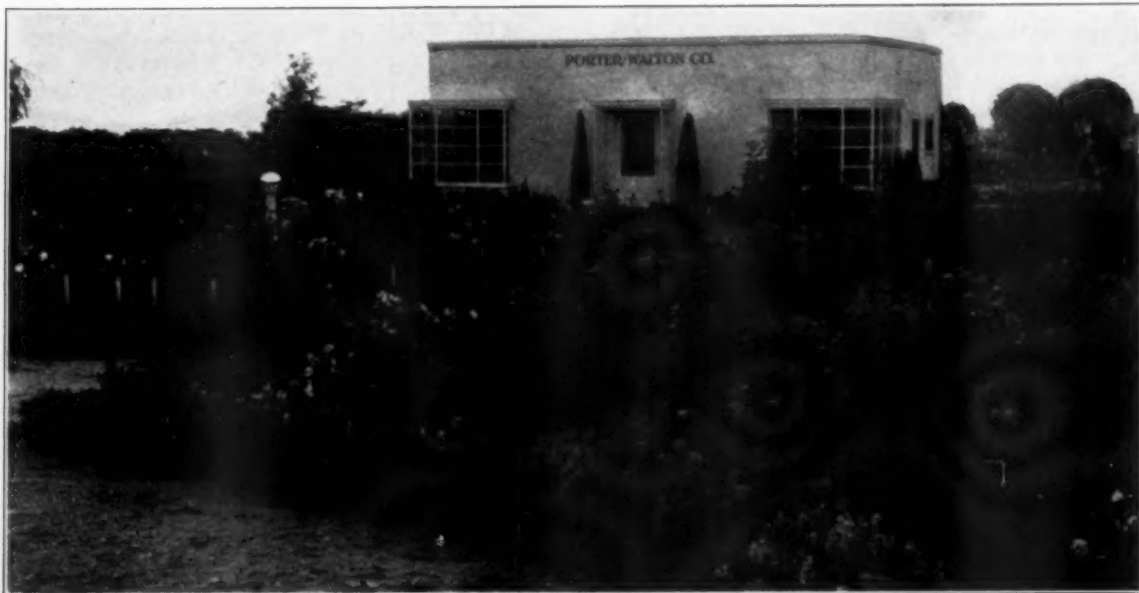
#### MARYLAND ARBORETUM.

The 1940 spring planting number of "The Four Seasons," being number 1 of volume 10 of the house organ issued by Towson Nurseries, Inc., Towson, Md., carries an invitation to residents of the section to visit the firm's gardens. Under the caption "An Arboretum for Maryland," it reads:

Over twenty years ago, on the site of our present main gardens, we developed a general landscape plan toward which we have been working these many years. In the autumn of 1939 we completed the upper level, after having moved row upon row of nursery stock to another section of the nursery.

This spring we will dedicate our gardens to the flower lovers of the country, believing there will be thousands of Marylanders (and many from other states) who will wish to enjoy their rare beauty and to see a veritable living garden dictionary—an arboretum where a multitude of the trees, shrubs, and perennials you have often read about may be seen under actual growing conditions.

The upper part of the page carries a handsome illustration of a spring view at the Towson gardens, certainly a stimulus to make the visit.



Display Garden about Sales Building Established Two Years Ago by Utah Nursery Firm.



# Trip Up the Hudson

*Route of Steamer on Day's Outing Arranged  
for A. A. N. Members at New York Convention*

Because the all-day boat trip July 24 will be a high light of the entertainment during the convention of the American Association of Nurserymen at New York city next summer, those not familiar with the geography of the Hudson valley may wish to refer to the accompanying maps to follow the route described in detail in the April 15 issue. The steamship Peter Stuyvesant will leave the pier at West Forty-second street at 10 a.m. First it will travel down the river as shown in the small upper map, past the Statue of Liberty and other historic islands in the harbor, and up the East river, beneath the seven bridges that connect Brooklyn and Queens with Manhattan Island and the Bronx.

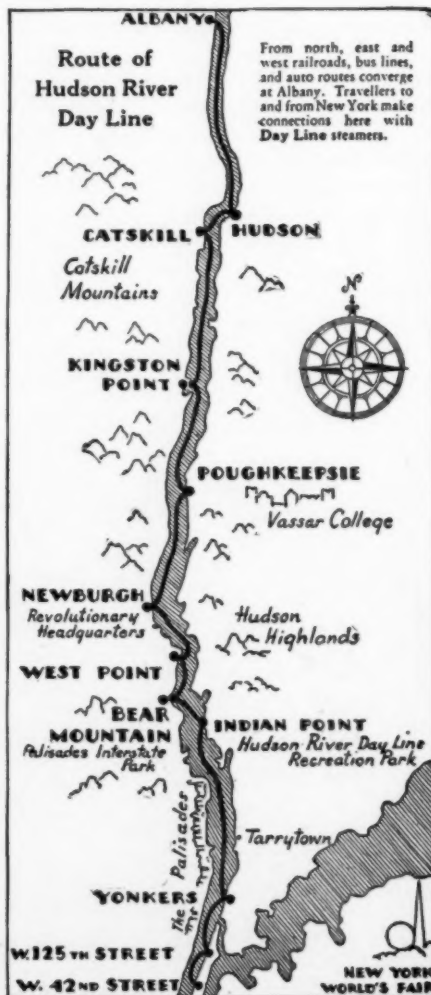
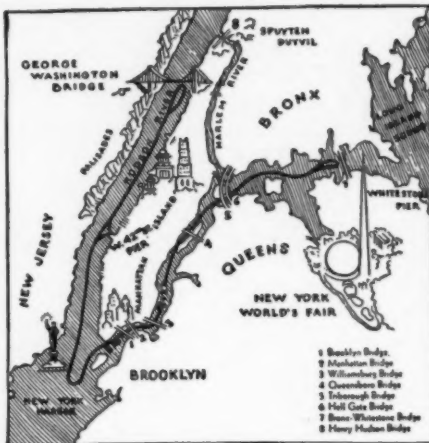
Retracing that course, the steamer will ascend the West river, as the larger arm of the Hudson river is locally known. Connected by the Harlem river, the East river and the West river make Manhattan an island.

Up the Hudson, as shown in the lower map, the steamer passes the famous palisades and Bear mountain, an unspoiled mountain playground.

The town of Newburgh is historic as headquarters of George Washington during the Revolution. On the crest of a hill overlooking the river is still standing the picturesque stone building, preserved as a museum.

Turning there, the steamer will return to West Point, long famous as the site of the United States Military Academy. There the famous parade of the cadets will be witnessed at 5:30 p. m.

The evening return down the river to the pier at Forty-second street will give an entirely different view of the metropolis than the northward voyage in the morning.



## EXHIBIT ARRANGEMENTS.

For the first time in several years a comprehensive exhibit of nursery stock, tools, machinery, fertilizers and other accessories to the nursery trade is being arranged in conjunction with the sixty-fifth annual convention of the A. A. N., in New York city, July 21 to 26 inclusive. The exhibits will be located in the foyer of the main ballroom of the Pennsylvania hotel, where all meetings of the convention will take place. Ideally located for exhibit purposes, the foyer will be the gathering place for all conventioners before and after meetings.

Twenty of the thirty-one exhibit booths available have already been contracted for, and others are pending. The New York convention will be an opportunity for all nurserymen to place orders for their future needs of everything from seeds to heavy machinery. Plan to order at the convention from the concerns which are cooperating with the A. A. N. in making this convention the best in our history, urges R. P. White, executive secretary. At the present time, he says, exhibits are assured by the following concerns:

Nursery stock: Bagatelle Nursery, LaBars' Rhododendron Nursery, Lovett's Nursery, Jackson & Perkins Co., Bay State Nursery and Gardner's Nurseries.

Allied trades: Doughten Seed Co., Woodruff Seed Co., Bean Mfg. Co., A. M. Leonard & Son, Rototiller, Inc.; National Bundle Tye Co., Metropolitan Greenhouse Mfg. Co., Henry A. Naldrett, American Agricultural Chemical Co., J. Shore & Co., Merck & Co. and American Chemical Paint Co.

## SPECIAL TRAIN.

Those interested in traveling to the A. A. N. convention by special train from Chicago, with stop-over at Niagara Falls, and return by way of Washington, D. C., are reminded to send in the coupon in the April 15 issue or write to the chairman of the transportation committee, W. J. Smart, Dundee, Ill.

PLANTING of 220,000 additional rose understocks for summer budding is reported at the Lynden Rose Nurseries, Lynden, Wash., operated by Clarence De Lange. Charles Galbraith has ten acres of roses in the same locality.



# Excerpts from a Plantsman's Notebook

*Further Notes on the Culture, Propagation and Uses of Many Kinds of Plants Given Garden Trial in Years Past—By C. W. Wood*

## **Primula Amœna.**

(March 28, 1940.) The request of a correspondent for some notes on *Primula amœna* reminds me that others might be interested in seeing the reply. First of all, the name might mean any one of three distinct plants, *P. Sieboldi*, *P. cortusoides* or the real *P. amœna*. At least, the literature tells us that horticulturists have mistakenly applied the name to the first two. The real *P. amœna*, we are told, is a widespread plant in southwestern Asia, the type coming from the Caucasus regions, I believe, with its numerous varieties spread over other parts of that section. The species is evidently closely related to the polyanthus; in fact, I once received seeds of *P. acaulis rubra* when *amœna* was ordered. Judging from its behavior in my trials, I suspect that it will need a little more moisture in this section than one gives the polyanthus varieties and it suffers from our hot sun, indicating a need for half-shade or more. In my opinion it cannot compare in beauty with the better strains of polyanthus; yet its near-mauve flowers, in clusters containing up to eight or more, on 3-inch stems in spring are quite worth having.

## **The Piedmont Wormwood.**

(October 2, 1938.) Of all the silvery-leaved wormwoods, *Artemisia pedemontana* is about my favorite. And no doubt it will attain wide popularity in this country as soon as it becomes known. How so beautiful a plant has so long escaped notice here is not easily explained. My notebook of last year compared a plant growing in a sunny wall to a mass of tumbling silver, but I recently found a more apt description in an article on plants of the Piedmont. I quote: "Its finely cut leaves are so heavily plated with silver that they remind one of the wonderful fligree silver of old-time artisans." Like most of the wormwoods, the blooms are of little account in an ornamental way, but that can be forgiven in light of its beautiful foliage.

I realize that the foregoing description is entirely inadequate, but there

is nothing that I could say, even if the notes were indefinitely extended, to convey the beauty of a mass of these 6-inch plants spraying over the top of a wall. And a wall, a sunny one, too, is what it needs to display its charms, and perhaps to make it permanent if one's soil is heavy. Anyway, I notice that it tends to die out in situations where moisture stands in winter. It is quite hardy here in northern Michigan if given good drainage and a protected spot. I suspect that the same plant is also traveling under the name of *A. lanata*. In fact, Correvon uses the latter in preference to *pedemontana*, though I notice that the Kew Hand List makes the two separate species. Under whatever name one gets it, he will be getting one of the choicest of silvery-leaved plants. It comes quite readily from seeds planted in autumn or early spring and, like most *artemisias*, also is easily propagated from new growths.

## **Anthemis Tinctoria.**

(November 17, 1939.) Despite the fact that the golden marguerite is an inveterate self-seeder, it continues to hold the public's fancy. There are many reasons why that is true, no doubt, but two, its long blooming period and ease of culture, have not a little influence in that direction. The plant is too well known to need comment, but it may be profitable to devote a little space to the several varieties now on the market.

The type, with its pale yellow flowers, has not in my opinion been superseded by any of its progeny unless it would be variety *Kelwayi* and perhaps the new *Moonlight*, though the latter has not been in commerce long enough to make a sure appraisal of its merits. True *Kelwayi*, with the longest and most prodigious flower production of any variety of my acquaintance and its bright yellow flowers, is a most desirable plant. One sees all shades of yellow, from pale lemon to a really bright shade, labeled *Kelwayi*, which one knows cannot all be correctly named. I suspect they are seedlings or at least some seedsman's conception of *Kelwayi*. I have not had the true plant for several years, but recall the

shade as almost a real buttercup yellow, quite the most vivid of any tinctoria of my acquaintance. According to my experience then it could not be expected to come true from seeds and I suspect that still holds good, even as it does in other varieties, such as *E. C. Buxton*, *Perry's* and *Moonlight*.

Of the latter, *E. C. Buxton* is a good sulphur yellow, quite pleasing in color, though not so persistent a bloomer here as *Kelwayi* or the type. *Perry's* variety, on the other hand, is a light golden yellow, rather shorter in stature than the others, rarely exceeding fifteen inches in my lean soil. It is, nevertheless, one of the best for cutting and therefore deserves a place in our gardens. The behavior of *Moonlight* so far in its long production of large, pale yellow flowers points to a decided acquisition in this useful species.

## **Dryas.**

(September 11, 1932.) A good display of *Dryas octopetala* in the garden this year started me in search for references in my own notebooks and in literature to this interesting genus. The search, I may note, has been a pleasant one and perhaps may be of interest to others.

The first reference in English to the genus that I found was in Gerard's *Herbal*, which was based on *D. octopetala*, the only species then known. He, as well as others of his time and later, knew it as a *teucrium*, *T. alpinum Cisti flora*, or the rough-headed tree germander, to be exact. "Amongst the rest of the true germanders," he wrote, "this is not of least beauty and account, having many weak and feeble branches trailing along the ground, of a dark reddish colour, hard and woody; at the bottom of which stalks come forth many long broad jagged leaves not unlike the precedent [he had just before described *Teucrium boeticum*], hoary underneath, and green above, of a binding and drying taste. The flowers grow at the top of the stalks, not unlike those of *Cistus foemina*, or sage rose, and are white of colouring consisting of eight or nine leaves in the middle whereof do grow

many threddy chives without smel or savor; which being past, there succeedeth a tuft of rough threddy or flocky matter, not unlike those of the great avens or pulsatilla." I have quoted Gerard at such length because he was in this case, as he was in so many others, so accurate in his observations and so simple in his word pictures. And I have a notion that anyone with a fair knowledge of plants can see a dryas in his mind from what the old gentleman wrote about it.

The plant is quite widely distributed in the north temperate and arctic regions. On this continent it is found in the alpine regions of the west, though on that account it is not to be considered difficult of cultivation. In fact, it does well under eastern conditions if given a sandy or gravelly soil that is not desert dry and a sunny situation. Like many broad-leaved evergreens, it is likely to suffer in snowless areas during winter because of sunscald if not protected by some light covering. Other than that, however, it presents no cultural problems, so far as I have found, and could well fill an important role in our gardens. Its evergreen leaves, like those of a miniature oak, on prostrate stems make a splendid foil for the abundant crop of large white saucers with clusters of yellow stamens in their centers, and these in turn are followed by seed heads similar to the ornamental one of *Anemone pulsatilla*, as Gerard observed. All in all, it is a splendid plant. A variety minor is mentioned in literature, of which I have no personal knowledge, and variety *vestita*, which is said to be covered with gray down, is also spoken of.

*Dryas integrifolia*, from the arctic regions of North America, is quite like type *octopetala*, except that it is smaller and its leaves are more curled at the edges. And it is not so amenable to cultivation, according to my experience.

We have left now the western American *D. Drummondii* and its offspring in conjunction with *D. octopetala* at the hands of the horticulturist Sundermann. When the yellow buds of *D. Drummondii* appear, one's hopes are raised that it is going to duplicate in a yellow theme what *octopetala* has done in white; it is a keen disappointment, then, when the buds forget to open. And again the offspring, *D. Sundermannii*, raises the same hopes and disappoints by open-

ing its creamy-yellow buds into the white flowers of *octopetala*. *Sundermannii* is, however, a good garden plant, easy to handle, and perhaps more floriferous.

In addition to the cultural needs mentioned before, an annual top-dressing of sandy soil will be found beneficial. All except *D. Sundermannii*, which does not come true, may be grown from seeds planted outdoors as soon as ripe. They may also be increased from cuttings taken in late July or August—perhaps at other times of the year—and rooted in sand in a shaded frame.

#### Sidalceas.

(August 29, 1939.) A group of colored photographs of named *sidalceas* received this morning from a friend in England has brought that valuable plant freshly to my mind. They reminded me, among other things, of a prediction which I made several years ago that *sidalceas* would likely rival the delphinium within a decade for cut flower honors. Like many of my brain children, the thought has come no way near fruition and perhaps is not likely to; yet in the face of all that, I still maintain that the genus holds possibilities far beyond ordinary conception. One reason for its lack of popularity in this country, no doubt, is that professional horticulturists, and especially the plant breeders, have shown so little interest in the plants. On the other side of the Atlantic, many workers have had the plants in hand, with results as shown by the photographs previously mentioned. These included, among others, the following named varieties: *Crimson King*, a beautiful red that is said to grow three feet high; *Rose Queen*, a 4-foot plant under good management, with a pleasing rose-pink shade; *Sussex Beauty*, pale pink (a beautiful shade according to the picture) flowers on stems up to four feet in height. Another picture showed an old friend of mine, variety *Listeri*, which I have seen five feet tall in rich prairie loam, making a beautiful plant, and a useful one, when two feet of that space bore fringed, pink mallows in the hot summer months.

If any of these varieties are now available in this country I do not know about it. They should be, however, and I, for one, hope they soon will be. I have heard two or

three of them mentioned, but search revealed the fact that the plants were seedlings and, of course, in no manner comparable to the parents. The fact that all were seedlings once holds the promise that we could have just as good kinds here if breeders will take them in hand.

(March 30, 1940.) Perhaps a few words on culture might be useful. Judging from personal experience and observations, I suspect that most of the criticisms heard about the poor behavior of these plants can be traced to the fact that they suffered for moisture. I do not know what conditions the plants grow under in their western American home, but in my dry soil they (the garden hybrids at least) do poorly unless they are mulched during the summer, are grown under irrigation, or both. To get maximum growth and large flowers, they also need a fertile soil, preferably one containing plenty of humus, I believe. They come readily from seeds, and the named varieties are easily increased by division in spring or fall, the former season being preferred here unless the divisions are to be wintered in a protected frame.

#### ANDORRA EXONERATED.

The Andorra Nurseries, Inc., Chestnut Hill, Philadelphia, Pa., and Lewis & Valentine Landscape Co., Ardmore, Pa., were exonerated by the government, April 16, of charges of conspiracy to defraud the W. P. A. on a landscaping project for Cobbs creek park.

The two corporations were indicted September 13, 1939, for conspiracy to defraud the W. P. A. on a contract of \$31,288 allegedly through charging excessive prices for plants, trees and shrubs and furnishing inferior products. With the corporations were indicted eight individuals, including W. Frazier Harrison, president of Andorra Nurseries, Inc.; William B. Garrett, former vice-president, and John Howes Humphreys, now vice-president of Andorra Nurseries, Inc.; C. Clifton Lewis and Charles M. Davis, respectively president and secretary of Lewis & Valentine Landscape Co.; Lewis Frick, an employee of Andorra Nurseries, Inc., and two W. P. A. officials, Robert B. Cridland, architect, and C. Naaman Keyser, engineer.

Of seventeen bidders on the Cobbs creek park project, Andorra Nurseries, Inc., secured a large amount of the order. Investigation was undertaken by the government, it is reported, after the discharge of a dissatisfied W. P. A. employee. The matter dragged for eight months because the government had no evidence but the affidavits, which did not support the charges.

April 16, United States Attorney Ganey nol-prossed the indictment, with the consent of Federal Judge Welsh.

Walter S. Gay, Mr. Ganey's assistant who had charge of the case, said: "After a further investigation, the United States Attorney's office feels satisfied the defendants are not guilty of the crime charged."

#### TREE EXPERT BILL.

For the fourth time there has been introduced in the New Jersey legislature the bill sponsored by the New Jersey Federation of Shade Tree Commissions designed to protect the public from the tree faker by creating and protecting the title, "certified tree expert." Last year the bill passed both houses, but was vetoed by the governor on the ground that it created a new state board whose duties could be performed by an existing state agency. So this time the bill, No. 337, introduced in the assembly March 18 and referred to the judiciary committee, while otherwise identical to the previous measure, provides for appointment by the governor of a "bureau of tree experts consisting of three members who shall be skilled in the knowledge, science and practice of tree care and shall have been actively engaged as tree experts within the state of New Jersey for a period of at least five years prior to their selection." The bill is not restrictive, but permits any person engaged in tree preservation to use the title, "certified tree expert," after complying with the requirements set forth in the bill.

#### LIQUIDATE ELSMFORD.

Efforts to reorganize the Elmsford Nurseries, Inc., Elmsford, N. Y., have proved unsuccessful, and the firm was ordered liquidated in bankruptcy, under an order of Judge Robert P. Patterson filed April 12 in the United States District court at New York city.

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500 Philadelphus Coronarius	2 to 3 ft.	9.00
300 Philadelphus Coronarius	3 to 4 ft.	12.00
800 Physocarpus Aurea (Golden Ninebark)	2 to 3 ft.	10.00
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600 Weigela Rosea	2 to 3 ft.	10.00
250 Weigela Rosea	3 to 4 ft.	15.00
Per 1000		
15000 Privet Amoor NORTH	.18 to 24 ins., 3 canes.	\$25.00
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A consent by the corporation to be adjudicated a bankrupt was presented to Judge Patterson by William Scott, president. Judge Patterson referred the case to Referee Frederick W. Stelle, appointed Chester B. McLaughlin as temporary trustee under a \$2,000 bond with permission to continue the business for twenty days and directed that the assets be sold at public auction by the Underwriters Salvage Co. on five days' notice to creditors.

May 27, 1938, the nursery firm petitioned under section 77-B of the

bankruptcy law for reorganization, listing assets of \$228,310.97 and liabilities of \$80,316.09. It stated it had a prospect of selling part of its land to Westchester county for the widening of Saw Mill River road and added it felt the proceeds might be sufficient to enable reorganization.

Judge Patterson continued the corporation in control of its property and gave several extensions of time to allow negotiations toward a reorganization plan. In consenting to adjudication the firm stated it is unable to propose a feasible plan.





## Charlie Chestnut



Horatio Alger — Up-to-date

It was a mistake on my part when I mentioned to Emil that I was going to write up a series of articles on the outstanding nurseries of the country to tell how they got started in business and how they made their success. Right away Emil wanted to be the first one. I tried to tell him in a nice way that he didn't qualify on all of the points which I was going to cover in my interviews, but then I knew that sooner or later I would have to write Emil up anyway, so I told him he could be first.

Come to think of it, with all of the different deals which Emil has had written up in the paper, I ain't never really gone to work and written up the story of how he happened to get started in the nursery business in the first place. That is I ain't never told the real whole story. Emil himself has told so many different versions himself at different times, that most of the nurserymen are a little hazy on the full details. Emil wants it known first of all that it aint true he learnt his trade from John Bushbottom. In fact, he claims he has learned old John a thing or two himself, according to Emil's story at least. I don't vouch for the facts, all I can do is put down what Emil told me.

"Well, where do you want me to begin, Chas?" he says when I got ready for the interview. "Do you want to put down where I was born and that?"

"Skip all that," I says, "just start off with when you first got the notion you was destined to be a nurseryman. What give you the idea anyway to think you could make a living selling bushes?"

"Oh, I see," Emil says, "you just want the story of my success. You don't want to go into my long struggle up until I made a success of it."

"Let's have it Emil," I says. "Begin where ever you think best."

"Well, Chas," he says, "I was practically a success right from the start, so I will start with when I first took the notion. I was working at the time in the livery barn at Lake Park," he begun.

"In them days all the nursery agents used to ship their orders to the livery barn in the spring and the farmers would come in with their teams and take their stuff away. That spring there was one big lot of stuff which wasn't called for. It laid around there for two weeks before we found out that the man who ordered it had died that winter, so there wasn't no chance to make a delivery. After a few days a letter come from the nursery in New York state. They wrote to Jim Anderson at the livery barn. They wanted Jim to take the stuff out and sell it. Jim says he didn't have no time to monkey around with nursery stock and he give me a chance to see what I could do with it. Jim let me take a horse and surry and I started out one day with the trees all packed in the back seat."

"How does it sound so far, Chas?" Emil says, "Sounds pretty good, don't it?"

"Well it aint startling so far," I says, "but maybe it will work up into something."

"I could put in a few words of advice to young nurserymen here and there, Chas," Emil says. "That would be good."

"It might be and it might not," I says. "Just go on with what happened next. What did you do with the trees there in the surry?"

"Most of the farmers brought their teams into the livery barn when they come to town on Saturday, so I was pretty well known to a lot of farmers. I made three calls and cleaned up the

stuff in half a day. In fact, I could have sold a lot more if I had it in the buggy. The company give me \$9 commission, which was just what I was getting for a weeks work at the livery barn including Sunday. I got to thinking it over how I could be a regular agent. It wasn't long before I hired out to the old Prairie State Nursery. They sent me my contract, including the plate book and the whole outfit. I went to work on the road and worked all that summer around Lake Park. I worked clear up to cold weather."

"What did you do in the winter?" I says. "Or did you make so much you went south to Florida for the winter. That would be good to put that in, Emil."

"That winter I hired out cutting ice on the river," Emil says. "But I kept reading up on nursery stock all winter. It wasn't no time until I could read off all the names of trees and roses and I got so I could give advice on landscaping. I was awful good on advice. In the spring the company was after me to get a set of rubber collars and a derby so I would look like a agent. I made a nice neat appearance. You might put that in Chas. for the benefit of the young nurserymen. You got to look like a agent if you want to be a agent. I worked at it a couple of seasons and then the company sent me out to work in other territory."

"Finally it come on to the spring of 1905 or maybe it was 1906, anyway it was the spring I had the team of white Indian ponies. I was working out in Iowa that summer around Union City. I got in there along in August in the early evening. I remember I put up my team at the livery barn and went over to the hotel."



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"Wait a minute now Emil," I says, "has all this beating around the bush got anything to do with your being in the nursery business. After all you know we cant fill up the paper with a lot of talk that mean nothing."

"I was staying at the commercial Hotel," Emil continued. "There was an old Dane by the name of Johnson run it. He was as odd a gent as you ever seen in your life, everybody called him uncle Ole. So I went in and I says, 'Uncle Ole, can you fix me up with a room for a few days while I make my canvas around Union City?' 'You better look the situation over a little and see first if you want to stay or not,' Ole says. 'One of your worst competition has been combing farmers here until there aint nothing which he aint got sold.' 'Dont mean nothing to me,' I says. 'Who is this here whirlwind your talking about?' I says to Ole. 'Its a fellow by the name of John Bushbottom,' Ole says, 'there he is in there by the bar.' The bar was right off the lobby, so I walked in to have a look around, I hadnt never met up with John at that time, altho I had heard of him from the other agents. They all claimed John was pretty hard boiled and mean competition."

"In them days John specialized in weeping mulberry. You could follow the trail clean across Iowa where John had been with his damned mulberrys. He was known far and wide as the Mulberry Merchant, so I went up to John and introduced myself. I asked him the market price of mulberrys and how the outlook was for orders around them parts."

"'You are just wasting your time here,' he says. 'I got this territory all covered, everybody, that is all but the Addie farms. There aint nobody can sell old man Addie. He is death on nursery agents. He chases em off with a shot gun. But he is a well to do old gent with 5 sons and married daughters, all with farms adjoining. Every nursery agent for years has tried to get the old gent to loosen up, but he wont let the agents get in the yard even. Seems like he got a bad deal one time and it soured him on agents.'"

"'Maybe the agents aint got the right hitch on the old gent,' I says. 'Ill bet you cant sell him,' John says, 'Ill bet you \$10.00 you cant sell him by Saturday night.' I didnt have no idea at the time how I might do it,



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but I says to John, 'Ill take that bet.' John took out his pocketbook and I took out mine. We give the money to the bartender and he put it in an envelope and stuck it in the cash register. 'We will meet here Saturday night, and one of us gets the \$20.00,' I says. I drifted out of the bar and went up to my room. That was Wednesday night."

"How did you happen to have \$10.00, Emil?" I says.

"Well, Chas., I only had \$12.00 on me, but I didnt want old John to bluff me. I snapped it up before John could back out. John didnt have no idea I would take the bet," Emil says.

"Thursday A.M. I drove out past that farm to get the lay of the land. There was the Addie farms along both sides of the road for over a mile. All that land was sure needing nursery stock. I sized it all up and I could see where they could use a lot of stuff, if I could get to talk with Mr. Addie. 'Emil,' I says to myself, 'this aint a good time, you better wait.' So I drove back into town for dinner. I sat down in the lobby looking out into the street and thinking all the time how in the world I could get a good excuse to drive into that farmers yard without getting chased off.

"About 3 oclock it begun to get dark and started to thunder way off and flashes of lightening was gettin closer. I could see we was in for a heavy storm right soon. It was then that the idea come to me how I would approach Mr. Addie, that is I had an idea, but it wasnt just the way it worked out in the end. I got out my team of ponies and started for the Addie farm. The rain was getting closer and closer, and it was getting darker and darker. I whipped my horses into a gallop as the rain come down in sheets. I timed it just right so I got to the Addie farm when the storm was the worst. I seen the door was open in the wagon shed, so I drove right into the shed. I jumped out and tied my team to a post and shook some of the water off my cloths.

"There at the back of the shed was Mr. Addie and he looked none too pleased about something. He come walking up to me. 'Who are you and what do you want?' he says. 'I dont want nothing mister,' I says, 'except to get out of the storm until it clears up a little.' It was still rain-

ing hard and looked like it would keep it up for hours.

"Down at the end of the shed I seen he had 5 hogs strung up ready to butcher. They was killed already and was just waiting to be dressed. 'Looks like you are gettin ready to butcher,' I says. 'Here I am in a fine mess,' he says. 'Two of my boys promised to show up here and help with butchering, and here I am ready and nobody to do it. A fine business,' he says. 'Got to get them pigs dressed right away before they cool off too much. I got rheumatism in my arms and I cant do it myself, and here it is gettin on towards night.'

"Well sir, Chas., I seen this was my big chance to get in good with Mr. Addie. Many is the time I butchered at home when I was a boy, and one summer I worked in the slaughter house, so I wasnt afraid to tackle it.

"So I says, 'Mr. Addie, I will be glad to help you out. If you will give me an apron and get the knives sharpened up good, I will go to work and dress them hogs for you myself.' Mr. Addie jumped at my proposition and he had me fixed up in no time. I pitched in and worked like the devil was after me.

"Mr. Addie says, 'I will put up your team and give them some feed.' I said that would be very nice of him, and kept on with my work. In a little while he was back. 'Say,' he says, 'that team of white ponies you got is as pretty a team as I have seen in many a day. Just the kind of a team I been looking for. Did you have any notion of selling that team?,' he says to me. 'I hadnt thought of it,' I says. I could see

Mr. Addie was crazy for white ponies, so I says to myself, maybe it would be worth while to sell the team to get in good with the old gent.

"I kept working right along with the butchering and every once in a while he made a crack about he would like to buy that team. I says, 'I need that team in my work, but maybe I could make a trade with you, if you got a team you dont need.' He went over to the barn and come back with a team for me to look at. He left them in the shed and come back with two other teams, so he had 6 horses there in the shed. 'How about that team of bays there,' I says, 'how would you trade for them?' 'Ill give you them bays and a hundred dollars to boot,' he says. 'Well Ill think it over,' I says. 'Ill try them out after I get thru here.'

"I worked until 7 oclock and had them hogs dressed up as pretty as you ever seen. Mr Addie says, 'Now you come on in for supper,' in fact he says, 'me and the Mrs. wants you to stay all night. You cant go on in the rain the way it is.'

"After supper I says to myself, 'Emil, this aint the time yet,' so I didnt say a word about nursery stock. Mr. Addie asked me what I was doing for a living and I says I was just a traveling man.

"Next morning I went out and cut up them hogs for Mr. Addie. I cut off the hams and the bacon and laid it all out on the table in good shape. I done a mighty good job, and Mr. Addie was sure pleased.

"We had dinner, and after dinner I says to Mr. Addie, 'I guess I will have to be gettin on with my work.



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Lets see that team of bays again, if you still want to trade.' So he hitched up that team and we both got in and drove around the yard a little. 'Thats a pretty team,' I says to Mr. Addie, 'Ill trade you for my white ponies and \$100.00.' So we made the deal.

"Now," he says, 'I want to pay you for the work you done helping me out that way with the butchering.' But I says, 'No, Mr. Addie, I couldnt think of it. But,' I says, 'you can do me a little favor if you would be needing any apple trees and stuff like that. You could use some stuff on this fine farm, Mr. Addie.' I says to myself, there now, we will see if he will chase me off the place or not. I waited for his answer.

"Well Chas., there wasnt nothing to it. He says, 'Ill be glad to buy something. You are the first nursery agent I ever seen that had any sense.' Just then one of his boys drove in the yard, and before he got out of the buggy the old gent says to his son, 'You turn right around and go and get all your brothers and sisters husbands. Get em all over here. We are going to buy nursery stock.' Well, sir, in a little while I had them all there in the parlor of Mr. Addies house, the five boys and the old gent. When the afternoon was over, I sold each of the boys an orchard and a windbreak and plenty of stuff besides. It come to over \$4500.00.

"Well Chas., in them days the commission was 50%. When I got my pay on that I quit and started my own nursery. Thats when I come to Riverbend and bought this first 4 acres right here, and as you know, I have been a big success ever since. I figure I am as well known as a lot of the bigger nurseries."

"Yes Emil," I says, "I will grant you that you are well known, the trouble is you are too well known. Now just one thing more, Emil. How does it come that John Bushbottom always claims he is the one that give you your start in the nursery business?"

"In a way John is telling the truth," Emil says. "He done me a big favor when he underestimated my selling ability and put me on to that big order."

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# This Business of Ours

*Reflections on the Progress and Problems  
of the Nurseryman—By Ernest Hemming*

## LOADING PLANTS.

Little things sometimes assume an importance out of all proportion to their relative value. The one labor that our men complained of most was the handling of balled plants that weighed from 200 to 400 pounds. Larger plants are, of course, platformed and loaded by tackle or winch. The loading and unloading on the truck bothered them most. It is sometimes a challenge to show how much you can lift, but the novelty of showing off soon wears away. While we have never had a serious injury, a permanently injured back is always a possibility where there is heavy lifting to be done.

The solution to this problem has been simple. We purchased one of the wheeled evergreen carriers with rubber tires, mainly for hauling plants across the lawns on jobs. However, we did not have it long until the men found that with two light plants two men could load a 400 to 500-pound plant, one pulling and one pushing the carrier, with so much ease it was fun.

Not only has the purchase saved time, permitted quicker loading and saved backs, but it can be a real money-saver when you are delivering and planting plants on a distant job where only two men are needed for the labor, but four men are necessary for lifting.

The other day a truck from a large nursery near Washington came here for some plants. The driver and his helper were so impressed with the idea that I'm sure the boss heard about it; so perhaps the suggestion will help some of the readers.

## GUARANTEEING PLANTS.

This article is being written with only the retail sale in mind. Most of the reputable nurseries publish in their catalogues the following: "We give no warranty, etc., etc.," and then usually answer complaints (just and unjust) by replacing the plants in question rather than lose a good customer. The rest of the reputable nurseries give guarantees in one form or another. The disreputable and

dishonest always make up a certain proportion of the population and are not pertinent to this article.

It is admittedly difficult to guarantee plants that are shipped—perhaps the best solution to that is that of one large well known firm which replaces failures beyond the first ten per cent. In our own case we decided that we would be responsible only when the cause of failure was essentially attributable to ourselves. No guarantee is given unless we do the planting. This gives us opportunity to make additional revenue, yet it assures us that the plants are planted properly and in good soil. It assures us that the plants are not located in positions in which they will not thrive.

Next, we do not guarantee plants injured by unusual weather conditions. This condition is given largely for psychological reasons, so that the customer will not lean on the guarantee. Frankly, we are probably at fault for selling the plant that is injured by the cold. Drought, of course, is out of our hands.

Lastly, we guarantee the plant for the first season only, and in most cases that is sufficient, relieving us of customers' carelessness yet forcing us to be careful in our handling of the plant.

However, the most important of all are not the terms of the guarantee, but our own attitude toward it. We never sell our plants using the guarantee as a sales talk, but merely use it as a prop to give the customer confidence that we do our part provided he does his in taking care of the planting. This is made clear when the sale is made and never causes hard feelings. After the plant is dead it is too late to argue.

In all things one must use latitude of judgment. There can be no hard

and fast rules. One might ask, what do you do about pest-injured plants or dog injury?—usually complaints of this character are infrequent. The unreasonable or dishonest customers are present to cause trouble whether you guarantee your plants or not and are in the same proportion to the whole as are crooked nurserymen.

With the normal customer a replaced plant usually creates a feeling of obligation to you and often means another order, and at least a satisfied customer, which is what we want.

Incidentally, it is sometimes regrettable that the normal customer does not complain about a failure which you would not object to replace, while the fussy customer gets a little more than is just.

Some nurseries refuse to guarantee plants to accounts unpaid when due. While this may have some beneficial effect, the type that does not pay bills usually belongs in that small category of fussy customers, and there is not much you can do with them.

Our guarantee costs us between one and two per cent of our volume and so is not an unduly heavy load. On the one hand, it is not a generous guarantee and there is little danger of extensive liability, yet it is considered by our customers as just.

In our catalogue, we use the words, "The object of this guarantee is to give the true garden and plant lover the complete success with our plants that we want them to have." E. S. H.

RECENT incorporations included Rex Beach Landscaping, Inc., Sebring, Fla., with Rex Beach, F. T. Haskins and H. G. Livingston as directors.

THIRTY members of the staff who had been with the firm thirty years or more provided an impromptu celebration of the seventy-fourth birthday of L. C. Bobbink, head of Bobbink & Atkins, Rutherford, N. J., April 11, in the form of a toast to start the day's work, which then proceeded as usual.

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Scotch Pine, 3 to 6 ins., 2-yr.	3 to 6 ins.	2-yr.	10.00
White Pine, 2 to 4 ins., 2-yr.	2 to 4 ins.	2-yr.	10.00
Norway Spruce, 3 to 6 ins., 2-yr.	3 to 6 ins.	2-yr.	7.00
White Spruce, 2 to 5 ins., 2-yr.	2 to 5 ins.	2-yr.	10.00
Douglas Fir, 3 to 8 ins., 2-yr.	3 to 8 ins.	2-yr.	20.00
American Arbor-vita, 3 to 6 ins., 2-yr.	3 to 6 ins.	2-yr.	20.00

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## MINNESOTA SEEDLINGS.

Abandoning state nurseries, the 1939 Minnesota legislature authorized the purchase from nurserymen of the state of the seedling trees to be supplied farmers for windbreak plantings. Already it is apparent that the farmer will get his trees for \$1 per thousand less than formerly, but the St. Paul Dispatch, in an editorial April 15, criticized the nurserymen because they did not offer to furnish the seedlings at less than their catalogue prices to farmers. The editorial read:

At the suggestion of the private nurserymen, the 1939 legislature abandoned measures to provide state nurseries from which farmers might be furnished tree seedlings at low cost. Instead, the legislature provided for wholesale handling of trees through the university extension service. The extension division at the university was authorized to make quantity purchases, under contract bidding, and furnish retail lots to farmers through the county extension set-up.

This seemed to be a sensible compromise. It left private business in the field, but promised to achieve for farmers some of the savings other states have realized by state-owned nurseries.

When the extension division invited bids, however, the nurserymen generally offered to furnish the seedlings in wholesale lots at no less than their catalogue price to farmers. That price, to be sure, is somewhat lower than the previous years and will save farmers around a dollar a thousand on most-used varieties. The legislature presumably can feel that it has had a part in gaining this reduction. Something, therefore, has been accomplished.

On the face of things, it would seem that the nurseries should be able to furnish large quantities to the extension division, at something less than catalogue prices. That was the theory of the law. If it proves a mistaken theory, other legislation may follow. Seedlings must be made available to farmers at prices that will encourage windbreak, shelterbelt and soil-conserving tree plantations.

## FARM INCOME HIGHER.

Good prospects for nurserymen in rural areas are seen in the prediction that farm cash income, which was higher during the first two months of this year than in any corresponding period since 1930, should remain well above the 1939 level for the first half at least, although the margin of increase probably will become narrower.

Farmers' cash incomes in January and February of \$1,378,000,000 were nineteen per cent above last year and eleven per cent higher than in 1937, the United States Department of Agriculture reports. This favorable showing was due largely to the fact that benefit payments reached a peak in February, or two months earlier than usual.

## LINING-OUT STOCK

	Per 100	Per 1000
Abies arizonica, 3 to 4 ins.	\$3.00	\$25.00
Abies concolor, 3 to 4 ins.	3.50	20.00
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Cornus florida, 12 to 18 ins.	2.00	15.00
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Ilex crenata, 3 to 4 ins.	2.00	15.00
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Pinus Mugho, 3 to 6 ins.	2.50	20.00
Pinus Mugho, transplants, 4 to 6 ins.	4.00	35.00
Pinus nigra (austriaca), 4 to 6 ins.	2.50	20.00
Pinus resinosa, 4 to 6 ins.	2.00	15.00
Pinus Strobus, 4 to 6 ins.	2.50	20.00
Pinus sylvestris, 4 to 6 ins.	2.00	15.00
Taxus cuspidata capitata, 3 to 6 ins.	3.00	25.00
Thuja occidentalis, 3 to 6 ins.	2.50	20.00
Viburnum thelmae, 6 to 8 ins.	4.00	35.00

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# Diseases of Trees

*Abnormal Characteristics Shown by Stone-fruit Trees That Are Affected by Different Virus Diseases — By Dr. Leo R. Tebon*

For many years the decadence of stone-fruit trees was a phenomenon difficult for layman and pathologist alike to explain on any reasonable basis. Although during their decline the trees produced a variety of signs of abnormality, neither soil nor fungi nor insects could be connected directly enough with the decline to be blamed definitely as causes. Within recent years explanation of a number of the difficulties with stone-fruit trees has been found in the discovery that they are subject to infection by a number of viruses and that the different viruses cause trees to appear abnormal in certain characteristic ways.

Up to the present twenty-one virus diseases have been distinguished in America on stone-fruit trees, thirteen rather clearly and eight not so definitely. The extant information about them summarized below has been collated by Dr. K. Starr Chester in tabular form as mimeographed circular No. 51 of the Oklahoma agricultural experiment station.

## Peach Virus Diseases.

Oldest and best known of the stone-fruit tree virus diseases is peach yellows, which has existed in the eastern United States since 1791. Trees infected with yellows tend to develop prematurely in the spring and produce characteristic upright wiry, or "wil- lowy," shoots with upright side branches. Their leaves tend to be smaller than normal and yellow, to be often red-spotted, to be folded upward and at the same time abnormally curled backward along the twigs. The fruit, which ripens prematurely, tends to be larger than normal, is often red-speckled and misshapen, and has watery, red-streaked flesh of insipid flavor. Peach yellows ranges from eastern Texas to South Carolina and northward into Canada, having been especially serious in such states as Michigan and Pennsylvania. Quarantines against it are maintained by Arizona, California, Idaho, Oregon and Washington.

Earliest experimental transmission of peach yellows from one tree to another, reported in 1888, was by budding and, although natural transmis-

sion takes place by way of an insect carrier, a leaf hopper, transmission by way of buds is still considered a possible means of spread. In experiments entire trees appear to have been cured by being subjected to only moderately high temperatures for relatively short periods of time. This fact is made use of in the suggestion that peach budwood, and also budwood of apricot, almond, nectarine, plums and possibly cherries, which are also susceptible to the yellows virus, can be sterilized by heat so as to be incapable of transmitting yellows during budding.

Phony peach, a virus disease known in the United States since 1886, but investigated only since 1920, causes trees to produce little new tip growth and consequently to appear stunted and bushy. The leaf blades on diseased trees are flatter than normal, but the foliage nevertheless has an unusually rich and healthy appearance. The fruit on such trees is well formed and of a good color, but it is undersized and the crop is small.

The range of phony peach disease is southeastern, extending to a northern limit reaching from Maryland to Missouri, Arkansas and Texas. A fed-

eral eradication program is maintained, and specific phony peach quarantines are in effect in Illinois, Mississippi, Oklahoma, Rhode Island and Canada.

The natural method of transmission of the phony peach virus has not yet been discovered. Artificially, the disease can be transmitted by the grafting of roots from diseased trees. This peculiarity, with others, has suggested that phony peach and peach yellows may be the same disease, but that the virus, eliminated from the tops of trees by summer heat in southern states, is restricted to roots. On the possibility of the two diseases' being the same, sterilization of budwood is desirable as a precaution against transmission.

Peach rosette, known since about 1891, causes trees to make a short twig growth of two to three inches, so that the small, yellowish-green crowded leaves form a conspicuous rosette. Trees completely affected produce no fruit. Rosette, like phony peach, is a southern disease, ranging southward from a line running through South Carolina, Kansas and Oklahoma. Quarantines are in effect against it in Arizona, California and

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French Lilac Grafts.....	5.00
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Aronia, red-fruited, 12 to 18 ins....	2.00
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Barberry, Jap red leaf, 6 to 9 ins....	2.60
Boston Ivy, fine seedlings.....	2.50
Calycanthus, 12 to 18 ins., nice....	2.25
Cornus Lutes, yel. br., 9 to 12 ins....	3.00
Crataegus Oxyacantha, 12 to 18 ins....	4.00
Cydonia, Jap. fl. quince, 12 to 18 ins....	2.25
Hydrangea P. G., 9 to 12 ins., nice....	3.25
Hydrangea Snowball, 2-yr., 9 to 12 ins....	3.00
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Washington. The Mariana plum, *Prunus cerasifera*, is apparently immune to infection, but other plums and apricots and cherries are susceptible. Heat sterilization of budwood is recommended as a means of preventing transmission.

Little peach, known since 1893, has been shown to be a mild type of peach yellows. Infected trees do not produce the willowy growth characteristic of yellows, but decline gradually in vigor and die after about four years of sickly growing. Leaves are light green to yellowish and appear rolled and drooping. The fruit, which matures ten days or more later than normal, is not discolored, but is undersized and often rectangular in outline; the flesh is stringy and the flavor is insipid.

The geographic range of little peach is practically the same as that of peach yellows. California is the only state having a definite little peach quarantine. Since little peach is only a mild form of yellows, heat sterilization of budwood is recommended.

Red-suture disease, known only since 1926, causes infected trees to produce new short shoots in abundance along the main stems, giving the tree a feathery appearance. The leaf tips are pale and curl downward, while the entire tree gives a yellowish-green to bronzed color impression. The fruit ripens prematurely on one side—usually the creased side—is bumpy, often has reddened ridges and is easily crushed. Red-suture is known to occur only in Michigan and Maryland, and no state has a definite quarantine against it. Heat sterilization of budwood is recommended.

Peach mosaic, recognized in 1931, causes trees to appear thin in summer. Growth of the internodes is irregular, sometimes long and sometimes short. The tips of twigs tend to branch abnormally and an unusual number of short side spurs develops. Leaves, in the spring, show a yellowish variegation which often is preceded by paling of the vein color, and there is some tendency for leaves to cluster or "rosette" at the twig tips. The flower color is variegated. The fruit becomes bumpy, mostly on the creased side, has a protruding tip and is often late to ripen. There is no constant characteristic of discoloration and the flesh is more or less normal.

The range of peach mosaic, chiefly southwestern, includes Oklahoma, Texas, New Mexico, Colorado, Ari-

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zona, California and Utah, as well as old Mexico. Aside from the peach, only the Maynard plum, *Prunus salicina*, is known to be attacked, and this plum is regarded as a possible carrier. Sterilization of budwood by heat is not effective in preventing transmission of the disease.

The X-disease of peach, called also yellow-red virosis, has been recognized as a distinct disease only since 1933. It attacks all varieties of peach and can readily involve entire orchards. It often affects only part of a tree, and infected trees seldom die. In the spring an infected tree develops normally, but later yellow patches and red spots appear on the leaves, the red spots falling out and giving a ragged appearance to the foliage. Early defoliation occurs, but the tip leaves remain on affected shoots. The fruit shrivels and falls soon after the leaf symptoms appear or remains on the tree and mummifies. In mild cases the fruit ripens prematurely, is bitter and contains no pit.

Besides the peach and the nectarine, the native wild chokecherry, *Prunus virginiana*, is susceptible to the X-disease virus, and the chokecherry is a natural source of infection. On one or other of these trees, the X-disease occurs in Massachusetts, Connecticut, Rhode Island, New York, Vermont, Illinois and Wisconsin. It has been questionably reported also from Utah, Colorado and Idaho. Although under consideration in several eastern states, no quarantine is as yet in effect in any state against this disease. It is not known whether heat sterilization of budwood is an effective means of preventing spread.

Asteroid spot, known since 1934, occurs only on young shoots and nursery stock. The first leaves of affected peach trees have small starlike, light green blotches and later leaves, yellow with greenish blotches, are prematurely shed. Asteroid spot does not occur on fruiting branches. The only place of occurrence is California.

#### Imperfectly Known Diseases.

In addition to the above, six virus diseases have been observed and noted or described in varying degrees. An "Idaho peach disease," reported in 1937, is said to have spread alarmingly by 1939. It occurs on several peach varieties, causing the bark to appear dull red and producing reddish and purplish leaf discolorations followed

by shot hole. This disease is possibly identical with the X-disease of the east. A second "Idaho peach disease," described in 1939, causes a color variegation of leaves resembling mosaic. This disease can be transmitted by grafting.

The condition called Idaho peach blister, first reported in 1939, is suspected, but not certainly known to be a virus disease. Affected trees look normal, but all of the fruit on them is blistered at the tip end or on the upper half, misshapen and slightly dwarfed. Brown corky material develops on the welts, and this is accompanied by gumming. The flesh is usually spongy and open, due to the presence of gum pockets.

The "Kentucky disease," observed in 1932, results in production of bumpy peaches, as does mosaic, but there are no leaf symptoms and the disease could be carried in the nursery year after year without its presence being known. Stipple spot, a term applied when leaves are variegated with small yellow spots, is a disease apparently distinct from mosaic. It occurs in the southwest. Angular yellow spot, observed in McCurtain county, Oklahoma, in 1939, is also distinct from mosaic and, though not proved to be of virus origin, results in numerous brilliant angular yellow patches on the leaves in late summer.

#### Plum Virus Diseases.

Plum trees are susceptible as noted above, sometimes without showing marked symptoms, especially to peach yellows, rosette and mosaic. In the case of yellows, wild plums apparently are important as carrying agents for the virus and as sources from which

it can be spread to orchards. In New York both plums and prunes are also subject to attack by a prunus virus which causes a tree to produce short shoots and small, narrow, glazed, hairless, wrinkled, thickened leaves with irregular edges. On such trees few fruits mature. Those that do mature are, however, entirely normal.

#### Cherry Virus Diseases.

As noted above, cherries are susceptible to two of the important peach virus diseases, rosette and X-disease. They are, besides, subject to attack by three recognized types of virus disease, two of which are known only in west coast states.

The pink-fruit disease, also known as pink cherry and internal necrosis, which was first observed in 1934, causes late blossoming. Also, on infected trees the fruit, which fails to mature properly, assumes an abnormal pink color and later turns brown or "buckskin" color. The fruit is small, insipid and bitter. Pink-fruit virus attacks only the Montmorency variety and occurs only in western Washington. It may possibly be a type of the buckskin disease.

Buckskin disease of cherry, first described in 1936, affects only part of a tree and does not kill it. The tree, however, soon becomes worthless. There is no yellowing or mottling of the leaves, but in autumn a reddening occurs along the base of the midrib and extends into the veins. The fruit is cone-shaped and short-stemmed and shrivels before maturing, taking on a dull "buckskin" appearance. At pres-

## CARLOAD LOTS

ELM, American, Moline and Vase, up to 4 ins. All transplants.

MAPLE, Norway, up to 3 1/2 ins. Transplants, extra select, spaced 7x7 ft.

POPLAR, Lombardy, up to 2 ins.

WILLOWS, Thurlow, up to 3 ins.

BARBERRY, Thunbergii, up to 2 to 3 ft.

SPIRÆA, Vanhouttei, up to 5 to 6 ft.

APPLE, 2-year.

CHERRY, 1-year.

PEACH.

All of above items can be supplied in carload lots.

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Largest Nursery in Indiana. Est. 1875

## MAHONIA AQUIFOLIUM (Oregon Grape)

### SEEDLINGS

4 to 12 inches, row run

\$20.00 per 1000.

(We can now ship Mahonia to any state in the union.)

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## SURPLUS PEACH TREES

9/16-in., 8c each; 7/16-in., 6c each;  
5/16-in., 4c each.

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NURSERIES**  
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## TAXUS CUSPIDATA

### Spreading Yew

Improved dark green strain. Best Evergreens for sun or shade, foundation plantings and hedges.

2 to 8 feet

Send for special list.

## BOXWOODS

Hardy Type Bushy Plants

15 to 18 inches.....	\$1.00
18 to 24 inches.....	1.50
2 to 2½ feet.....	2.00

**THE W. A. NATORP CO.**  
Cincinnati, Ohio

## EVERGREENS

Fine assortment of the best types of B&B Evergreens.

**HOLTON & HUNKEL CO.**

Milwaukee, Wis.

Nursery at Brown Deer, Wis.

## Sturdy Northern-grown Evergreens

	Per 1000
Austrian Pine, 6 to 8-in. sdgs....	\$15.00
Norway Pine, 6 to 8-in. sdgs....	15.00
Ponderosa Pine, 6 to 8-in. sdgs....	12.00
Scotch Pine, 8 to 12-in. sdgs....	15.00
White Pine, 4 to 6-in. sdgs....	16.00
Black Hills Spruce, 2 to 4-in. sdgs....	20.00
Colorado Spruce, 4 to 6-in. sdgs....	20.00
Norway Spruce, 6 to 8-in. sdgs....	15.00

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## HILL'S EVERGREENS

Complete assortment of lining-out sizes  
Also larger grades for landscaping  
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EVERGREEN SPECIALISTS

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## EVERGREENS

Lining-out and Specimens

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Daytons Bluff Sta. St. Paul, Minn.



## EVERGREENS

For Seventy-six Years  
Growers of Quality Evergreens  
Lining-out Stock a Specialty

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**EVERGREEN NURSERY CO.**  
Established 1864 : STURGEON BAY, WIS.

ent cherry buckskin is known only in California, where it is said to spread rapidly in orchards. Sweet cherries on Mahaleb stock seem to escape infection.

Cherry chlorosis, formerly called physiological yellow leaf, is reported from Wisconsin. Infected trees produce normal twig growth, but a reduced spur system, so that they soon become unprofitable. Older leaves turn yellow and begin to drop about three weeks after petals fall. Only a few fruits are formed, and these are not bumpy and have no dead areas. Only sour cherries are attacked.

## KAYLOR NURSERIES MOVE.

The Kaylor Nurseries, founded fourteen years ago as the Peace Arch Nurseries at Blaine, Wash., by Mr. and Mrs. Floyd C. Kaylor, are now located at Lakewood. Last fall it was decided that a location nearer the city of Everett and closer to the center of the Puget sound country was desirable. A farm was purchased fourteen miles north of Everett, a mile off the Pacific highway, including property which will allow for further expansion of the business.

## GARDEN SPRAY KIT.

Decided improvement should result in home gardens, through overcoming the inertia that commonly prevents proper spraying, from a complete garden spray kit for the amateur gardener, just announced. In a metal box, that can be locked from children when not in use, is included everything necessary to control insects and diseases in the garden, together with a comprehensive chart giving directions for use with various plants and the application for specific pests.

The metal box, attractively finished in green, is eleven inches long and has a carrying handle. It holds supplies of lead arsenate, nicotine sulphate, dusting sulphur and rotenone dust, together with a spray gun and a dusting gun, and the chart of directions. Padlock is included in the retail price of \$2.25 to \$2.69, depending upon the distance from the shipping point. The originator is C. F. Smith, and distribution will be handled by Jean Maclean, Des Moines, Ia. An advertising campaign on the kit is being planned to reach home gardeners, probably to start in the early summer months.

## THE PAUL OFFENBERG NURSERY COMPANY

1988 East Livingston Ave.  
COLUMBUS, OHIO

Lowest Prices

Highest Quality

## EVERGREENS

for Lining out

Grafted plants

50,000 out 2½-in. pots

Grafted plants, 1-yr. field

Cuttings, rooted, out of the bench

Cuttings, Bare roots, 1-yr. field

We don't graft on collected understock, but on replanted seedlings only, which cuts down your losses.

Ask for Special list

1887

1940

## WE OFFER FOR 1940

our usual line of

SHRUBS EVERGREENS

FOREST AND SHADE TREES

VINES AND CREEPERS

NATIVE PLANTS

Write for Trade List

**FOREST NURSERY CO., INC.**

J. R. Boyd, Pres. McMinnville, Tenn.

## WHOLESALE GROWERS

Specialising in  
EVERGREEN SEEDLINGS  
TRANSPLANTS AND APPLE TREES

Write for price list.

Send us your trade list.

**MATHEWS EGGERT NURSERY**

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## LINING-OUT STOCK

Send for List

**Willis Nursery Company**

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Wholesale growers of the best

Ornamental Evergreens,

Deciduous Trees,

Shrubs and Roses.

Write for our current trade list.

**THE KALLAY BROTHERS CO.**

Falmesville, Ohio

## JUNIPERUS PFITZERIANA

Strong rooted tip cuttings, 4 to 6 ins. \$3.50 per 100, \$30.00 per 1000.

**J. B. BEALLE**

Greenwood, Miss.

## Coming Events

### WESTERN TREE MEETING.

The seventh Western Shade Tree Conference will be held May 23 to 25 at Los Angeles, Cal., with headquarters at the Mayfair hotel. Fred W. Roewekamp is president.

At the opening session, papers will be presented by Lawrence Pritchard, of the University of Southern California, and Frank Shearer, Los Angeles park commissioner. In the afternoon a shade tree clinic will be conducted for the general public, followed by a talk on pruning by Dr. W. H. Chandler and one on famous California shade trees by Prof. Woodbridge Metcalf.

In the morning, May 24, technical papers will be presented by Dr. Bonner, on growth-promoting substances; by A. M. Boyce, on pest control equipment for shade trees, and by Willis W. Wagner, on the physical effects of drought. In the afternoon a trip will be taken to Elysian park, where there will be a demonstration of equipment.

The final session, Saturday morning, will be at the campus of the University of California in Los Angeles, where R. H. Smith will talk on oil sprays and D. Appleman on chlorosis of eucalyptus trees. In the afternoon will be held a tour of the campus and botanical garden.

In charge of exhibits is W. S. Rowland, of Peck & Wadsworth, Inc., while other local arrangements are in the hands of Ross O. McIntire, of the Los Angeles forestry department.

### SHADE TREE CONFERENCE.

When the Connecticut tree protection board called a meeting of a few scientists and practicing arborists at Stamford in 1924, little did they realize that from this meeting was eventually to develop a national organization of several hundred members, covering every conceivable art for the advancement of shade tree preservation.

Plans for the sixteenth National Shade Tree Conference have almost been completed. Because of continued increase in membership, another day had to be added in which to round out a program packed with educational and entertaining features. This year's gathering will be at the

Book-Cadillac hotel, Detroit, Mich., August 27 to 30.

Besides the program of discussions on technical and scientific problems there will be trade and educational exhibits, as well as field demonstrations.

### NORTH CAROLINA DATES.

Dates for the annual summer meeting of the North Carolina Association of Nurserymen will be June 27 and 28, according to an announcement sent out to members by William H. Howard, Hickory, secretary-treasurer.

The place will be Hickory, and Catawba county nurserymen are going to do their best as hosts. Entertainment will be in the hands of J. Y. Killian, Newton; J. P. Pons, Vandese, and A. L. Thompson, Statesville.

The program is being prepared by C. H. Brannon, Raleigh; J. G. Weaver, State College; William Edingloh, New Bern, and G. C. Robbins, Blowing Rock.

### MICHIGAN COMMITTEES.

Elden H. Burgess, president of the Michigan Association of Nurserymen, has announced the following committee appointments for 1940:

Legislation — Benjamin J. Greening, chairman; B. J. Manahan, and R. W. Ackerman, Sr.

Membership — Arthur Watson, chairman; Clifford Emlong, and Walter Coon.

Public relations — Alex Hunziker, chairman; Ray Fox, and J. I. E. Ilgenfritz.

Auditing — Eugene Heuser, chairman, and Lewis Krill.

Summer meeting — Harry Malter, chairman; B. J. Manahan, and Harold Paul.

Winter meeting — Harold Paul, chairman, and Arthur Watson.

Local arrangements for winter meeting — W. C. Trout, chairman; M. F. Carter, and R. D. Miller.

### CALIFORNIA OFFICERS.

Newly elected officers of the San Fernando valley nurserymen's division of the Southern California Horticultural Institute are: William E. Silva, of Silva's Rare Plant Gardens & Nursery, Tarzana, president; Ed B. Arnesen, of the Valley Garden Supply Co., North Hollywood, vice-president, and Walter Davis, of the Aurora Nursery, Glendale, secretary.

### WASHINGTON NOTES.

The federal government is calling for bids to landscape the Kent post office grounds.

Hill & Burrows Nursery, Pacific City, is growing over 263 varieties of tulips. One hundred additional varieties will be added next fall.

R. A. Pierce, State Flower Nursery, Bothell, has finished the season of carload shipping to the east. Mr. Pierce is gratified with the unusual demand for rhododendrons and azaleas.

R. R. Williams, Puget Sound Nursery, Tacoma, was stricken en route to Seattle to attend the Washington state A. A. N. chapter meeting.

The Washington State Nurserymen's Association and the Washington state A. A. N. chapter held their regular meeting April 25 at the New Washington hotel, at Seattle.

Howard E. Andrews, H. E. Andrews & Co., Seattle, recently spent several days in and about Spokane.

Hopkins Nursery, Bothell, closed the shipping season with a carload of Acer Pseudo-Platanus purpurascens to the middle west. W. L. Fulmer.

HAVING conducted a landscape service at Van Wert, O., for more than a year, Arthur S. Brooks is establishing the Brooks Nurseries on a farm three miles west of the town.



May we thank our many friends for their patronage during the past season. We have in prospect one of the finest crops of

"California Grown" Rosebushes  
for 1940-41.

**HOWARD ROSE COMPANY**  
Hemet, California





Shipping costs prepaid on lining-out stock to any point in the United States or Canada. No packing charge.

Most items can be shipped from our nursery as late as June 1. Late orders given immediate attention.

Write today for Wholesale Trade List of evergreens. Many varieties listed.

### SHERWOOD NURSERY CO.

EVERGREENS 1-1 Propagators & Growers  
141 S. E. 65th Avenue PORTLAND, ORE.

### MILTON NURSERY CO.

A. Miller & Sons, Inc.

Milton - Since 1878 - Oregon

Growers of one of the most complete lines in Pacific Northwest

#### GENERAL NURSERY STOCK

Specializing in

Fruit Tree Seedlings, Oregon and Washington Grown Flowering and Ornamental Trees and Shrubs

Birches, Chinese Elms, Flowering Crabs, Hawthorns, Lindens, Norway and Schwedler Maples, Mountain Ash.

Combination carlots to Eastern distributing points afford minimum car rates.

Catalogue on request or Send your Want List.

### OREGON'S BEST SOURCE OF GOOD ROSES

is

PETERSON & DERING, INC.

Wholesale Rose Growers

Scappoose, Oregon

Write for List

#### CHINESE ELM SEED

Genuine, hardy North China Strain.

High germination seed gathered from isolated trees of good type.

WASHINGTON NURSERIES

Toppenish, Wash.

### ORENCO NURSERY CO.

Orengo, Oregon  
WHOLESALE GROWERS

Fruit, Shade, Flowering Ornamental Trees, Fruit-tree Seedlings, Roses, Etc.  
Very complete line of quality stock

Catalogue sent on request.

### SOUTHWESTERN NEWS.

The students in landscape gardening at the Kansas State College, Manhattan, planned their thirteenth annual landscape inspection trip in parts of Kansas, Oklahoma, Arkansas and Missouri, April 25 to 28, under the direction of Prof. L. R. Quinlan.

Paul Pritchard has opened a seed and nursery store at Ottawa, Kan.

The Sarber Nursery, Topeka, Kan., has opened a store on East Sixth street, Topeka, to supplement its sales yard and take care of downtown business.

Robert Baker, of the Baker Bros. Nursery, Fort Worth, Tex., called on the trade in Oklahoma and Kansas early in April. Mr. Baker reports his company is enjoying a brisk business.

The Sutton Nurseries, Independence, Kan., were low bidders on the roadside improvement job in Cowley county, Kansas, while the Kansas Landscape & Nursery Co., Salina, got the job for Sedgwick county.

Mount Hope Nursery, Lawrence, has furnished a great deal of stock for spring planting on the campus of the state university, at Lawrence.

The Kansas Landscape Service Co. has been organized at Wichita, Kan., with Donald Gordon, president, and Dwight Smith, treasurer. They are establishing a nursery near Wichita, at Franklin road and South Hydraulic.

It is announced that application will be made to the state corporation commission for an Oklahoma charter to develop a nursery on twenty acres of land owned by the Classen Co., at Tenth and South May avenue, Oklahoma City, to be operated as the Classen Nursery Co.

Miller's Greenhouse, Butler, Mo., was awarded the contract for landscaping the school grounds at Butler.

### GARDENS AT FRISCO FAIR.

Howard E. Gilkey will have charge of the garden show which will be staged during the Golden Gate International Exposition, at San Francisco, the coming summer. In the outdoor section adjoining the Homes and Gardens building, among the model homes, 81,000 square feet will be devoted to thirty modern gardens, which will be on view both day and night. Exhibitors are expected to have interesting and instructive displays in this open-air garden show. Ted Ewart is assisting Mr. Gilkey in the arrangements.

### PORTLAND WHOLESALE NURSERY CO.

306 S. E. 12th Ave., Portland, Oregon

To the Trade Only

A General Line of NURSERY STOCK

including the following:

FRUIT TREES  
ESPALIER FRUIT TREES  
FRUIT TREE SEEDLINGS  
NUT TREES  
SMALL FRUITS  
SHADE and FLOWERING TREES  
DECIDUOUS SHRUBS  
EVERGREENS  
VINES and CLIMBERS  
PORTLAND-GROWN ROSES  
BULBS and PERENNIALS

Also a complete line of Nursery Supplies

Oregon-Grown Quality Guaranteed

### A. MCGILL & SON

FAIRVIEW, OREGON

Wholesale Only

GOOD WESTERN-GROWN  
NURSERY STOCK

Fruit Tree Seedlings

Flowering Ornamental Trees

Shade Trees

Roses

Grown right and packed right.

Combination carloads to Eastern distributing points will save you on freight.

### Oregon-Grown SELECT NURSERY STOCK

Catalogue on request

DOTY & DOERNER, INC.

6691 S. W. Capitol Highway  
Portland, Oregon

Per 1000  
Boysenberry Tips, (strong).....\$25.00  
Youngberry Tips, (strong)..... 25.00  
Cuthbert Suckers, (strong)..... 15.00  
Newburgh Suckers, (strong)..... 22.50  
Taylor Suckers, (strong)..... 22.50

DENISON & BLAIR

Troutdale, Oregon

## Letters from Readers

### TEST WEIGHTS OF TREES.

Much has been said during the past year about the determination of weights on balled and burlapped trees and shrubs, especially since the convention of the Texas Association of Nurserymen last September, when the standardized grading committee endeavored to work out its version to submit to the national association's committee with recommendations.

The book on estimates published by John Surtees has been of real interest and value for comparison in computing the weights, and items on this subject have appeared in the trade papers. The estimated shipping weights of trees and shrubs are of special interest to all who buy, sell and ship nursery stock.

In making a recent shipment of 100 live oak trees, size 3½ to 4-inch diameter, we checked on the weights accurately. These trees were dug with balls thirty-three inches wide and twenty-four inches deep, and the 100 trees weighed by railroad scales 87,300 pounds, or an average per tree of 873 pounds. By the Surtees scale of weights for this size ball the weight would be 886 pounds. The actual weight, therefore, was only thirteen pounds below the estimate, and if the tops had not been pruned and the balls a little wetter, they would likely have been the same. This, along with several other tests made during this shipping season, leads me to feel confident that the Surtees chart of estimated weights is reasonably accurate and of much value to shippers.

The formula we use for determining weights of balled and burlapped trees was published in this magazine about three months ago. We feel, with the tests which have been made since, that this system of determining weights is of much value for future shipments. Walter C. Griffing.

### LOOSE-LEAF SCRAPBOOK.

In the April 1 issue I noticed comment from a subscriber who had difficulty clipping features from your paper to paste in his scrapbook.

I glean many valuable things from your publication. I have found a loose-leaf scrapbook fine to keep them.

A person needs only to buy a loose-leaf binder and some price-book sheet

rings. The rings can be glued to the sheets taken from your journal and the prongs of the loose-leaf binder passed through the sheets where the paper reinforcement rings are attached.

Hope this idea may be of use.

Ray Burrup.

### "SCRAPBOOK FIEND."

Thanks for considering us scrapbook fiends! I have been gathering arboreal material for over thirty-five years. At first it looked like a childish notion, but now I have a scrapbook that money would not buy. This is material one cannot get in any published book. I have scrapbooks for tree pictures, landscape subjects, plant pests, diseases, etc. Many clippings are from the American Nurseryman—but there is plenty of room for more. Keep on the good route you have started, and many thanks for considering our scrapbooks!

Rudolph Timmler.

### QUERCUS COCCINEA.

The oaks constitute one of our most important groups of ornamental trees. They are strong, durable and relatively free from injurious insects and diseases. Since the advent of the

Dutch elm disease, phloem necrosis and numerous other elm troubles, the oaks have increased in their importance and in some sections are being recommended instead of the elms.

Among the many oaks adapted to ornamental planting, the scarlet oak, *Quercus coccinea*, is considered one of the best. It is, however, probably no better than the red, pin, willow, Texas red and white oaks when these are used under the right conditions. The scarlet oak, a handsome tree with gradually spreading branches, forming a round-topped head, is native from Maine to Florida, west to Minnesota and Missouri. It is no doubt adaptable to planting even outside of that area, because reports have indicated that it does well in highway plantings in northern California. It prefers a relatively dry, acid, sandy soil, but it is less particular to soil conditions than the red oak and some of the others.

The leaves are oblong or elliptical in shape, from three to six inches long and straight across or broad wedge shaped at the base. The sinuses are deep, rounded or oval in shape, often closing considerably at the outer point. This is one of the main points to use in distinguishing this species from the pin and red oaks, which have a more open U-shaped sinus. The leaves are normally bright green, turning a brilliant scarlet in the fall. The seven lobes, like all of those in the so-called

## MORE PLANTS—MORE PROFIT—LESS COST WITH ARIENS TILLER



3 models to meet all your requirements

For every tillage and cultivation job you'll save hours of labor. In ONE operation you can prepare a completely pulverized level seed bed, thoroughly aerated, with weeds and insect life destroyed—mulching, root pruning, complete cultivation are easy for the Ariens, Renovator attachment for Bermuda grass and rebuilding lawns. Operates easily in small space. Write for details and name of nearest distributor so you can arrange for demonstration.

## ARIENS-Tiller



THE AMERICAN TILLAGE COMBINE  
ARIENS CO., Box 710.



Brillion, Wisconsin

## PHLOX

### WE ARE NOW SHIPPING LINING-OUT PHLOX

Good, thrifty young plants, freshly dug. We have a good list of varieties. Now is the time to get your order in and be sure to get your choice stock from phlox specialists.

Also we have field-grown phlox. Write for our complete list.

**SHERMAN NURSERY COMPANY**  
Charles City, Iowa.

## PEACH TREES

in large quantities

### BOYSENBERRY

1-yr. No. 1 Tips and Transplants

### BLUEBERRY

1-yr. Rooted Cuttings

2 and 3-yr. Plants

**STRAWBERRY - RASPBERRY**  
**ASPARAGUS PLANTS**

**BOUNTIFUL RIDGE NURSERIES**  
Princess Anne, Md.

## HARDY FRUITS

Haralson Apple  
Manchurian Apricots  
Red Lake Currant  
Fredonia Grape  
Taylor Red Raspberry  
Mary Washington Asparagus  
Americana Plum Seedlings  
Caragana Pygmaea, L.O.S.

**ANDREWS NURSERY**  
Faribault, Minn.

### *If it's new for the Northwest, we have it!*

In quantity, we grow:

New Red Lake Currant  
McDonald and Ruby Rhubarb  
Cornus Elegantissima  
Cotoneaster Acutifolia  
Physocarpus Monogynus  
Minnesota Fruit Breeding  
Farm originations

**SUMMIT NURSERIES**  
Stillwater, Minnesota

### *Wholesale Growers of*

Grapevines, Currants, Gooseberries,  
Blackberries and Raspberries  
*Let us quote on your requirements*

**FOSTER NURSERY COMPANY, INC.**  
60 Orchard St. Fredonia, N. Y.

### *Specializing in Vegetable Roots* **Asparagus • Rhubarb • Horseradish**

1, 2 and 3-year-old  
Also BERRY PLANTS Send for List  
**FIELD'S NURSERY** Phone  
Post Office, SEWELL, Box 40, N. J. Wisconsin 86 R 3

black oak group, are bristle-tipped. The bark on the young twigs is smooth and light brown. On the older branches and trunk it is divided into ridges not so rough as those of the black oak nor so flat and smooth as the plates on the red oak. The buds are dark reddish-brown, usually hairy above the middle. This characteristic also can be used as an identification point. The acorns, which take two years to mature, are about one-half to three-fourths inch long, reddish-brown, often striped and about one-third to one-half enclosed in the cup.

The scarlet oak is readily transplanted. Among the most troublesome insects are the gypsy and brown-tail moths, which can be controlled by stomach poisons; the golden oak scale, the obscure scale and the oak gall, which can be controlled by dormant oil sprays; red spider, controlled by wettable sulphur sprays, and the two-lined chestnut borer, which is difficult to control. Badly infested trees should be removed and the vigor of the others increased. Occasionally the twig-pruner is serious. The recommendation here is to collect fallen twigs in winter and burn them. Most of these pests are not serious in the midwest. Two diseases sometimes cause trouble, the leaf blotch disease and the shoestring root rot. The former can be kept under control by spraying with Bordeaux mixture, two applications about two weeks apart, starting when the leaves are half size. General control of insects and diseases, increasing the vigor of the plant and improving the soil drainage will usually keep the root rot under control.

The species oaks are usually propagated by seeds. Those of the scarlet oak may be sown in the fall or stratified in moist sand and peat at a temperature of from 35 to 45 degrees Fahrenheit over winter and sown the following spring.

The scarlet oak may be used both for street and lawn planting. According to records in New York city and elsewhere, it even does fairly well in congested residential sections. Tree men could well use larger numbers of this oak in ornamental plantings.

L. C. C.

ARTICLES of incorporation were recently filed by B. F. Landstreet & Co., Inc., West Chester, Pa., to conduct a nursery business and landscape contracting service.

## ROTOTOX

Reg. U. S. Pat. Off.

### For Peach Borer Control

ROTOTOX is made with Ethylene Dichloride which was recommended for the borer in an article appearing in the March 15, 1940, issue of the American Nurseryman, page 34.

ROTOTOX contains Rotenone and Penetrol and is widely used for the control of hard-to-kill insects such as Gladiolus thrips on the bulbs and plants; European corn borer in Dahlias; Cyclamen mite or "Delphinium Black"; red spider, leaf hopper and many other pests. It is splendid for spraying ornamentals and fruit and vegetables. ROTOTOX is safe and economical too.

20-page Green Booklet free with order or on request. Ask for Peach borer control directions.

POSTPAID PRICES: 8 oz. (makes 12 to 24 gals.), \$1.00; 1 pt., \$1.75; 1 qt., \$3.00; 1/2 gal., \$5.00; 1 gal., \$10.00; 5 gals., \$45.00, prepaid; terms cash with order.

**THE ROTOTOX COMPANY**  
8124 Yale Street East Williston, N. Y.

### Apple and Peach Trees In Carload Lots

A long variety list to select from. We also can offer other Fruit Trees in carload lots, as well as Tennessee Natural Peach Seeds.

If you are interested in either Fruit Trees or Peach Seeds, send us your want lists and we will quote attractive prices.

**SOUTHERN NURSERY CO.**  
Winchester, Tenn.

## SHRUBS

### Shade and Ornamental Trees Grapevines and Blackberries

Special Prices on  
Peach and Barberry

Write for Price List and mail us your  
WANT LISTS

**WILLOWBEND NURSERY**  
(E. M. Brewster's Sons)  
Perry, Ohio

We are offering CEDAR POLES such as are being used to stake street trees, at \$11.00 per 100, f.o.b. New York.

**MICHIGAN PEAT** by the carload.  
Send your requisites of nursery stock.

**ARTHUR DUMMETT**  
61 West Grand Street,  
Mount Vernon, N. Y.

Strawberries, Raspberries, Blackberries,  
Dewberries, Boysenberries, Youngberries,  
Grapevines, Asparagus Roots,  
Shrubs and Perennials.  
Write for wholesale list.

**E. W. HUEBNER NURSERY**  
Stevensville, Mich.

## PEACH PITS

Our Pits Compare Favorably  
With the Best

**HOGANSVILLE NURSERIES**  
HOGANSVILLE, GEORGIA



## ST. LOUIS NEWS.

## Monthly Meeting.

The monthly meeting of the Landscape and Nurserymen's Association of Greater St. Louis was held April 8, at Clayton. William Weber, of the William Weber nursery, Kirkwood, Mo., presided. The meeting was well attended and the members reported that they were busy. They expressed hope that the weather would hold out so that digging and planting might not be curtailed.

Mr. Denning and Mr. Goff were present from the state entomologist's office and reported on the Japanese beetle hearing at Washington, D. C. Mr. Denning thanked the members for the coöperation given his department and reminded them that his office, maintained in St. Louis, was always ready to help in the matter of out-of-town shipments which might be infested or diseased. He cited a case in which a local nurseryman might have had recourse on the shipper, had the incoming stock been inspected upon arrival by his department. This service is gratis.

This association is composed of landscape men, nurserymen and allied tradesmen. They meet on the second Monday of every month. Visitors in the trade are always welcome.

## Local Notes.

The temperature dropped to 24 degrees above zero early in April, and considerable cold, rainy weather, with some light hail, followed in the latter part of the month. Digging and planting were held up to some extent by the unfavorable conditions.

The Sanders Nursery Co., which has been operating a nursery at Grover, Mo., and a retail store at 623 Clara avenue, St. Louis, for many years, is experiencing good business at the sales lot which was opened at N. & S. road and Clayton road, a year ago this spring. John Sanders, manager of the lot, recently added a Pontiac station wagon to the delivery equipment. He finds the station wagon convenient for light, quick delivery and for transporting men during the rush season. This sales lot does a big business in balled and burlapped deciduous stock in late spring and early summer, as well as the regular line of evergreens and perennials.

The McGovern Nursery, Kirkwood, Mo., recently added a Foley propa-

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The surest, safest and most economical eradicator for Weevils doing considerable damage annually to Taxus, Rhododendron and Nursery Stock.

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No fade-out of your markings



It's the finest marker you have ever seen.

Made of metal it stays put.

Baked enamel green finish—Rains wash it like a dish.

Slip-over fool-proof metal cap with airplane

transparent window material.  
Stake 7" long, ample white marking space, 1 1/4" x 2 1/4".  
Beauty, Strength, Permanence.

Sample mailed on request. For resale it will show you a big profit. It is the marker you have long wanted for your nursery.

Address Dept. A

**SMITH INDUSTRIES**  
XENIA, OHIO

gating house, 20x50 feet. This house is devoted entirely to cuttings. It is heated by a hand-fired Hercules boiler. Mr. Clarence reports the new house satisfactory in every respect. Considerable propagation is carried on in hotbeds and coldframes also at this nursery.

The Houlihan Nursery Co., Creve Cœur, Mo., has a new International truck, to replace the one recently de-

## FOR SALE

Well established nursery operating in Wisconsin and adjoining states; agency and drive-in. Buildings exceptionally good and adequate for all needs; modern storage. 80 acres or 280 acres, combining farm operations with nursery if buyer wishes.

Address No. 158, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

## PARTNER WANTED

Partner with sales experience wanted in well established nursery doing business in Wisconsin and elsewhere. Splendid opportunity for man with real sales ability.

Address No. 157, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

## HELP WANTED

Nursery superintendent desired by retail nursery of 100 acres. Prior experience as superintendent not essential but must have good nursery experience and references. Salary limited only by results.

Address No. 160, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

## HELP WANTED

Sales and office manager for well established wholesale and retail nursery in the south. Applicant must have had plenty of experience, a knowledge of ornamentals, fruits, landscaping, bookkeeping; must not be afraid of work. State qualifications and salary expected in application.

Address No. 159, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

molished when the driver of a pleasure car lost control and had a head-on collision with the Houlihan truck. No one was seriously injured in the accident. Joseph P. Houlihan reports a good spring business.

William Weber, formerly with the

## TWINE ROPE BURLAP

Special Cordage  
for Nursery Work

J. E. FRICKE CO.  
40 North Front Street  
PHILADELPHIA, PA.

## NU CROP CHINESE ELM SEED

Now booking

1 lb. ....	\$1.25 per lb.
10 lbs. ....	1.00 per lb.
25 lbs. ....	.90 per lb.

Ask for price in large lots.

Order now.

THE BARTELDES SEED CO.  
Denver, Colorado

## Better Irrigation, Cheaper THROUGH ITTNER NOZZLES

Used in connection with a Circular Spray System, which you can build yourself, the Ittner Nozzle will give you efficient irrigation at remarkably low cost. 15 lbs. pressure sprinkles a 40-foot circle adequately. Durable built—easily attached—extensively used.

Write for folder and details of our Free Advice Service on irrigation problems.

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Write for wholesale trade list

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TED PLANT AND BULB PACKAGE  
for over-counter trade. Has WATER-  
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A. M. LEONARD & SON

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Please Mention  
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when writing advertisers

H. J. Weber & Sons Nursery, Affton, Mo., which has discontinued business, has opened a nursery and sales lot on highway 66, two miles west of the city limits. He opened in time for the spring business and reports sales good.  
C. F. G.

## WALDBART EXHIBIT.

In the April 1 issue, description of gardens in the St. Louis flower and garden show contained mention of the contemporary garden, which was the exhibit of A. Waldbart & Sons Nursery Co., as staged by the Waldbart Floral Co.

The garden was installed by A. Waldbart & Sons Nursery Co., which has been in business in St. Louis since its origin, in 1872, by A. Waldbart. The firm is located at 7211 Natural Bridge road, where it offers a complete landscape and nursery service, with Eugene B. Waldbart as its active head.

The most recent outstanding job which this firm has completed in St. Louis is the Lucas-Hunt Village project, which was a landscape job consisting of 660 units.

The other Waldbart exhibitor in the St. Louis show was the George Waldbart Floral Co., 469 North Kingshighway, which is now operated by the flower store employees of the late George Waldbart, a brother of A. Waldbart. Fred Michel is president of the firm and Andrew V. Hoffmann, secretary-treasurer. This firm showed arrangements for the debutante in the retail florists' section.

## REOPEN FAIR GARDENS.

Gardens on Parade, the horticultural exhibition at the New York world's fair, will reopen May 11. This beauty spot is to be augmented by a number of new planting arrangements which will enhance considerably last year's presentation. The planting along the avenues outside the gaily festooned buildings is to be enlarged, and along the Flushing river there will be an attractive border of flowering annuals. At the north end, near the thatched cottage and woodland garden, an old mill and water wheel are constructed, with a natural planting of birches and pines as a background for the brook which will lead forward from the water wheel.

## HARDY LILIES

### Ready for Prompt Delivery

Six of a kind at dozen rate; 35 or more at 100 rate. Doz. 100

AURATUM (Gold-banded Lily of Japan).

8 to 9 ins. cir.....\$1.70 \$12.00

BATEMANNE. Rich glowing apricot.

First size ..... 2.50 18.00

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First size, 4 ins. and up... 1.40 10.00

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Top size, 7 ins. and up... 3.20 15.00

First size, 6 to 7 ins. .... 1.70 12.00

Second size, 4 to 5 ins. .... 1.50 10.00

ELEGANS. George Joerg. Brilliant orange. First size..... 1.50 10.00

Atrosanguineum. Rich dark crimson. First size 1.80 12.00

Mahogany. Mahogany-red. First size ..... 1.50 10.00

HENRY (The Golden Speciosum).

9 ins. circumference and up 3.00 20.00

8 to 9 ins. circumference... 2.20 15.00

7 to 8 ins. circumference... 1.50 10.00

6 to 7 ins. circumference... 1.00 7.00

5 to 6 ins. circumference... .75 5.00

PHILIPPINENSE FORMOSANUM (The Wonder Lily).

5 ins. circumference and up 1.80 12.00

4 to 5 ins. circumference... 1.50 9.00

3 to 4 ins. circumference... 1.00 7.00

2 to 3 ins. circumference... .75 5.00

PRACOX. White Queen. Large white trumpet.

8 to 10 ins. circumference. 2.70 18.00

6 to 8 ins. circumference... 2.00 14.00

4 to 6 ins. circumference... 1.50 10.00

3 to 4 ins. circumference... .90 6.00

REGALE (Regal Lily). 10 ins. circumference and up ..... 3.00 20.00

9 to 10 ins. circumference. 2.20 15.00

8 to 9 ins. circumference... 1.50 10.00

7 to 8 ins. circumference... 1.20 8.00

6 to 7 ins. circumference... .90 6.00

SPECIOSUM ALBUM. White. 8 to 9 ins. circumference... 2.50 18.00

SPECIOSUM RUBRUM (Magnificum). Pink and white, spotted red.

8 to 9 ins. circumference... 1.70 12.00

TENUIFOLIUM (Coral Lily). 2-year select, 4 ins. and up 1.00 7.00

2-year, No. 1, 3 to 4 ins. circumference ..... .75 5.00

2-year, No. 2, 2 to 3 ins. circumference ..... .50 3.00

1-year, No. 1, 1 1/2 to 2 ins. circumference ..... .40 2.00

TENUIFOLIUM, Golden Gleam (Golden Coral Lily). 2-year, No. 1, 3 ins. cir-

cumference and up... 1.20 8.00

2-year, No. 2, 2 to 3 ins. circumference ..... .75 5.00

TENUIFOLIUM, Red Star. Star shaped.

3 to 4 ins. circumference... 1.20 8.00

2 to 3 ins. circumference... .75 5.00

TIGRINUM (Single Tiger Lily). 8 ins. circumference and up 1.30 9.00

7 to 8 ins. circumference... .90 6.00

6 to 7 ins. circumference... .75 5.00

UMBELLATUM ERECTUM. Scarlet.

8 ins. circumference and up 1.70 12.00

6 to 8 ins. circumference... 1.50 10.00

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UMBELLATUM. Vermilion Brilliant. Brilliant crimson ..... 1.50 10.00

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## OBITUARY.

## William A. Murdoch.

Fatally stricken by a heart attack while talking with the owner of an estate on which he was completing a large landscaping contract, William A. Murdoch, florist and nurseryman, Titusville, Pa., died April 13.

Born at Titusville in 1889, he entered the University of Michigan for a course in law, but was called home on the death of his father after two years. He took over his father's business and developed both greenhouses and nurseries extensively.

His widow, a daughter and a son, the last a freshman at Cornell University, survive him.

## Sahei Imura.

After an illness of about four months, Sahei Imura, 73, partner of K. Sawada, of Overlook Nurseries, Crichton, Ala., died April 24. Born in Japan, he was engaged in the nursery business at Grand Bay, Ala., for nine years before going to Crichton, where he was a resident for twenty-one years. Surviving are his widow, three daughters and two sons, all of Crichton.

## William H. Bailar.

William Henry Bailar, retired nurseryman and landscape architect, San Leandro, Cal., died April 4 after a brief illness, at the age of 79. Mr. Bailar had been a resident of the metropolitan Oakland area for forty years, going there from Ohio as a young man. He was credited with laying out the landscape plan of the Berkeley city hall plaza and planted many of the trees and shrubs in the environs of Lakeside park, Oakland.

Last year he and Mrs. Bailar celebrated their golden wedding anniversary. Surviving are his widow, three daughters, one son, two brothers and three sisters.

## William A. Yates, Sr.

Funeral services for William A. Yates, Sr., Brenham, Tex., were held April 2. Born in England seventy-seven years ago, Mr. Yates came to America at the age of 18, settling in Houston. After three years, he went to Brenham and established the Highview Nurseries. Survivors include his widow, three sons and two daughters.

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Oberlin Peony Gardens, Sinking Spring, Pa.

POTTED JUNIPERUS VIRGINIANA.  
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## HARDY PLANTS.

Unusual collection, new and standard varieties. Excellent field-grown stock for nurserymen, florists and landscape gardeners. Send for wholesale list.  
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We grow large acreage of graded stock for wholesale buyers. Now booking orders for spring delivery. Write us.

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For sale: Well established small nursery operating in central Virginia. Catering to local trade. Splendid opportunity to enlarge and make return on investment. Sell on account of the age of the owners.

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AN INTRODUCTORY DOZEN  
OF THE FINEST HEMEROCALLIS.  
Special this week. All selected from "The Highest Rated Eastern Ten" or from "The Florists' Review's Excellent Popular-priced Dozen." The collection, \$7.00. Mikado, Hyperion, Ophir, Anna Betacher, Wau-Bun, Geo. Yeld, Bagdad, Sunny West, Mrs. W. H. Wyman, Winsome, Modesty, Margaret Perry. Catalogue on request.  
PORT-ROSE GARDEN, FREEPORT, ILL.

Choice, strong liners, from 2 1/4-in. pots:	100	1000
Biota Aurea Nana (Berckmann's), 4 to 6 ins.	.....	\$7.00 \$65.00
New dk. green Amer. Arb., 4 to 6 ins.	.....	6.00 55.00
Woodward Globe, 4 to 6 ins.	.....	6.50 60.00
Excelsa Stricta, Juniper, 5 to 7 ins.	.....	9.00 85.00
Sabina, Juniper, 5 to 7 ins.	.....	8.00 75.00
Depressa Plomosa, Juniper, 6 to 8 ins.	.....	9.00 85.00
Irish Juniper, 5 to 7 ins.	.....	7.50 70.00
Polish Juniper, 6 to 8 ins.	.....	10.00 95.00
Swedish Juniper, 4 to 6 ins.	.....	7.00 65.00
Taxus Brevifolia, 4 to 6 ins.	.....	8.00 75.00
Taxus Cuspidata (spread.), 4 to 6 ins.	.....	6.00 55.00
Taxus Canadensis (upright), 4 to 6 ins.	.....	8.00 75.00

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HEMEROCALLIS, THE LOVELY DAY LILY.  
\$ at the ten rate Per 10  
Ajax, 2 1/4 ft. June. Orange-apricot.....\$2.00  
Apricot, 2 ft. May. Imported true stock... 2.00  
Baroni, 3 ft. July-August. Lemon-yellow... 1.50  
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Estmere, 2 ft. May-June. Apricot-yellow... 1.50  
Gold Dust, 2 1/4 ft. May-June. Bright yellow 1.00  
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Gold Standard, 3 ft. July-August. Pale yellow 2.00  
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Iris Perry, 3 1/4 ft. July-Aug. Orange-salmon. 3.50  
J. A. Crawford, 4 ft. June-July. Apricot-yl. 1.50  
Margaret Perry, 4 ft. July-August. Flame-red 1.50  
Middendorff, 2 ft. May-June. Orange-yellow 1.50  
Mikado, 3 ft. July-Aug. Orange with red spot 6.00  
Mrs. W. H. Wyman, 3 ft. August. Pale yellow 2.00  
Orangeman, 2 ft. June-July. Apricot-yellow. 1.00  
The Gem, 3 ft. July-Aug. Deep orange-yellow 1.00  
Thunbergii, 3 ft. July-Aug. Buttercup-yellow. 1.00  
One each, above 20 varieties, \$4.75.  
Heavy stock, ready for resale.  
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LINING-OUT STOCK.  
Ready for immediate delivery.  
CONIFEROUS EVERGREENS.  
Per 100 Per 1000  
BIOTA Aurea Nana, Berckmann's Golden.  
Rooted cuttings .....\$8.00 \$60.00  
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2 1/4-in. pots .....10.00 80.00  
Rooted cuttings ..... 6.00 50.00  
BIOTA Bonita.  
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BIOTA Excelsa.  
2 1/4-in. pots .....12.00 100.00  
BIOTA Texana Glauca.  
8 to 10 ins., transplanted.....12.00 100.00  
CYPRESS, Italian Worthiana.  
2-in. pots ..... 9.00 70.00  
Rooted cuttings ..... 6.00 50.00  
JUNIPERUS Chinensis Pfitzeriana.  
Rooted cuttings ..... 8.00 60.00  
JUNIPERUS Chinensis Pfitzeriana Aurea, Hill's Golden Pfitzer.  
2-in. pots .....12.00 100.00  
Rooted cuttings ..... 8.00 60.00  
JUNIPERUS Chinensis Stricta, Spiny Greek Juniper.  
2 1/4-in. pots .....12.00 100.00  
JUNIPERUS Japonica (Procumbens).  
2 1/4-in. pots .....15.00 120.00  
JUNIPERUS Sabina, Savin's Juniper.  
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of Plant Names and Botanical Terms  
64 pages, 3000 names, 25¢ per copy  
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Evergreen seedlings, 2-year: White and Red Pine, \$6.50 and \$7.50 per 1000. Terms, cash. Send for spring list of seedlings and transplants. Jackson Nurseries, 293 Westbrook St., Portland, Me.

## SEEDS FOR NURSERYMEN.

Asparagus, selected Mary and Martha Washington. Rhubarb, Victoria and Llanneau. Write for quantity prices.  
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Several carloads of large park and landscape evergreens and trees, complete general stock. Also Dictaphone, Multigraph, filing cabinets. Send for list. Hardy Ferns, Irises, Hemerocallis, Gypsophila, Aquilegia, etc., assorted as desired, \$5.00 per 100.  
STRAND NRSY. CO., TAYLORS FALLS, MINN.

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Heavy rooted liners, 5 to 6 ins., with 1 to 3 stems, \$5.00 per 100, \$40.00 per 1000.  
ROBERT H. BENDER, BOXLY NURSERY,  
St. Martins and Gravers Lane,  
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Nursery Stock	Per 100
Hackberry, 4-year, transpl., 2 to 3 ft.	.....\$7.50
Hackberry, 4-year, transpl., 3 to 4 ft.	.....10.00
Hackberry, 4-year, transpl., 4 to 5 ft.	.....12.50
Norway Maple, 4-year, transpl., 18 to 24 ins.	.....5.00
Norway Maple, 4-year, transpl., 2 to 3 ft.	.....7.50
Arbor-vitae Woodward Globe, 3-year, 10 to 12 ins.	.....15.00

Henry Nurseries & Greenhouses, Henry, Ill.

Juniperus Pfitzeriana, 6 to 8 ins., 2 1/4-in. pots, \$7.00 per 100, \$60.00 per 1000. Ship out of pots or bare root.  
Thuja Orientalis Bakeri, 4 to 5 ins., rooted cuttings, \$5.00 per 100, \$40.00 per 1000.  
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A. Pastor Nursery, 4013 Lennox Blvd., Inglewood, Cal.





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Prices given are F. O. B. West Chicago, Ill.

	Wt. per 1000	With Bottoms
1 1/4 x 1 1/4 x 3/4		4 x 4 x 4
500.....\$1.20	19 lbs.	500.....\$3.05
1000.....2.40		1000.....6.05 68 lbs.
2 x 2 x 3		4 x 4 x 6
500.....\$1.40	21 lbs.	500.....\$4.15
1000.....2.80		1000.....8.20 98 lbs.
2 1/4 x 2 1/4 x 3		6 x 6 x 6
500.....\$1.45	23 lbs.	500.....8.10
1000.....2.75		1000.....16.10 190 lbs.
3 x 3 x 3		
500.....\$1.60	28 lbs.	
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3 x 3 x 4		
500.....\$1.65	44 lbs.	
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4 x 4 x 3		
500.....\$1.65	45 lbs.	
1000.....3.10		
4 x 4 x 4		
500.....\$1.85	56 lbs.	
1000.....3.65		
3 x 3 x 6		
500.....\$2.35	56 lbs.	
1000.....4.60		
4 x 4 x 6		
500.....\$2.05	54 lbs.	
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6 x 6 x 6		
500.....\$5.45	170 lbs.	
1000.....10.80		

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5% is allowed on orders of 25,000 made up of various sizes. If interested in larger quantities write us.

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GEO. J. BALL, INC., West Chicago, Ill.

#### CATALOGUES RECEIVED.

Kelsey-Highlands Nursery, East Boxford, Mass.—Eight-page booklet, 6 1/2 x 10 inches, illustrating in color outstanding hardy plant specialties, with references to the company's catalogue. A real piece of sales material.

Cottage Gardens, Lansing, Mich.—General price list of evergreens, ornamental trees and shrubs and hardy plants, 20 pages, 4 x 9 1/4 inches.

Oberlin Peony Gardens, Sinking Spring, Pa.—Catalogue No. 113, 24 pages, 6 x 9 inches, listing many varieties, with translation of Japanese names and in other cases name of introducer and year of introduction, American Peony Society rating and brief flower description.

#### PREVENTS DUSTY DRIVES.

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Calcium chloride comes packed in 100-pound, moistureproof bags. It is applied by raking it lightly over a dirt or gravel surface in the proportion of about one and one-quarter pounds per square yard of surface for the first treatment. A second treatment is recommended a month to six weeks later. This will usually suffice

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Fill the 50-gallon container with any spray solution, whitewash or water paint. Take it anywhere; the wide convex steel wheel rims can't cut into turf; low suspension of removable container in steel chassis prevents upsetting on hillsides. The extraordinary pressure and long high-test spray hose enable you to do a thorough job of spraying or painting with very little effort and without changing location of the Sprayer.

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for the remainder of the season, depending, of course upon weather conditions.

Calcium chloride is a white, flaky chemical which has the property of

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The Garden Club Blue Book, just off the press, lists 275 National, State and Community Garden Clubs with names and addresses of principal officers; also names and addresses of 6,000 garden club members. A valuable, up-to-date prospect list for nurserymen, seedsmen, etc. Price \$12.00.

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## NEW PLANT PATENTS.

The following plant patents were issued in April, according to Rummeler, Rummeler & Davis, Chicago patent lawyers:

No. 373. Rose plant. Frank H. Witter, Evans City, Pa., assignor to the Evans City Cut Flower Co., Evans City. A new and distinct variety of rose plant, characterized particularly by its very vigorous and prolific growth; its exceedingly dark foliage of heavy substance, and its flowers of large size, which have a pleasing and lasting fragrance, very large outer petals, a high-pointed center retained throughout the life of the flower and a distinctive color ranging from Thulite pink to rose red.

No. 374. Rose plant. Jean H. Nicolas, deceased, late of Newark, N. Y., by Fannie Nicolas, administrator, assignor to Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of hybrid tea-rose plant, characterized as to novelty by the form and distinctive coloring of the flowers in the different stages of their development, the texture and form of the petals of the flowers and the lasting quality as cut flowers and on the bush.

No. 375. Rose plant. Jean H. Nicolas, deceased, by Fannie Nicolas, administrator, assignor to Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of climbing hybrid tea-rose plant, characterized as to novelty by its hardiness, its remontant blooming habit, the distinctive form and coloring of the flowers and foliage in the different stages of development and the fragrance.

No. 376. Rose plant. Alexander Dickson, Jr., Newtonards, Belfast, Ireland, assignor to the Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of hybrid tea-rose plant, characterized as to novelty by the deep rich coloring of its flowers, the arrangement and form of the petals thereof and the persistent-blooming, heat-resistant habit of growth.

No. 377. Rose plant. Basil E. Prior, Colchester, England, assignor to the Jackson & Perkins Co., Newark, N. Y. A new and distinct floribunda rose plant, characterized as to novelty by its vigorous and fast growth, its vivid color display of clean and flat red masses of blooms and continuity of bloom of large clusters with some individual flowers strongly contrasting with the luxuriant dark green foliage.

No. 378. Rose plant. Pedro Dot, Barcelona, Spain, assignor to the Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of hybrid tea-rose plant characterized by its vigorous growth, size and unique coloring of the flowers and foliage and the large short flat-topped form of the bud and globular form of the flowers.

No. 379. Rose plant. Lorenz Pahissa, San Feliu de Llobregat, Spain, assignor to the Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of hybrid tea-rose plant characterized by the deep rich red color of its flower changing to deep carmine, the symmetrical form of bud and half-open flower for a rose of this coloring, the notched form of the petals, the habit of growth and coloring of the wood, foliage and thorns.

No. 380. Pear tree. Victor A. Silveira, near Milpitas, Cal. A new and distinct variety of Beurre hardy type pear tree characterized particularly by the dark reddish-brown color of its fruit and new wood, the brown tinge of its older wood and its dark green foliage.

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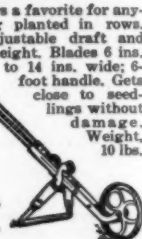
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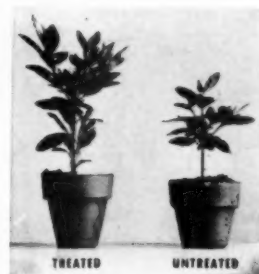
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